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# From Graphical to Voice Interface - financial institutions' expanding new channel

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## Executive Summary



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*Voice user interfaces (VUI) are rapidly evolving in tandem with advancements in machine learning and AI. VUI services fit well into financial institutions' omnichannel strategies. Overseas financial institutions have released apps that enable users to even make payments by voice command. Japanese financial institutions also are expected to offer more services.*

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### What is a VUI?

As the term implies, a voice user interface (VUI) is a means of operating a computer or other device with voice commands. The rationale behind VUIs is twofold.

First, spoken words are considered the most natural form of human communication. While mechanical user interfaces such as TV remotes, computer keyboards and microwave ovens' touchpads are ubiquitous nowadays, none of them is intuitive. To operate a TV, you have to push the right button on your remote. The same applies to keyboards: you cannot communicate with one without inputting the right characters in the proper order. If you had a personal assistant, you would likely use your voice to ask your PA to change the channel on your TV or to make a request.

Second, VUIs are more conducive to multitasking than mechanical UIs. While it is difficult to change your clothes while checking the weather forecast on your smartphone, it is easy to ask, "How's the weather today?" while getting dressed. In terms of multitasking, VUIs may be most helpful in the kitchen. Cooking is extra time-consuming when you have to keep referring to a cookbook or search for recipes on your smartphone, but it becomes a lot easier if you can access step-by-step instructions with voice commands. The ability to multitask more easily is a major advantage of VUIs over conventional UIs.

In short, voice communication is natural and rational for humans. VUIs are accordingly seen as ultra-user-friendly UIs. One increasingly common VUI-enabled device is smart speakers.

## Financial institutions are using VUIs as one prong of omnichannel strategies

Smart speakers are popularizing VUIs. Since Line, the most popular messaging app operator in Japan, launched its Line Wave smart speaker in July 2017, many smart speakers have hit the market even in Japan, including Google Home and Amazon Echo.

Even financial institutions are starting to roll out VUI services to augment existing GUI services as part of the omnichannel strategies they have long been pursuing through channel expansion. Their conventional channels currently consist of the in-branch face-to-face (F2F) channel and GUI-enabled non-F2F channels (e.g., ATMs, online banking), the latter of which include the mobile channel. VUI-enabled channels' inclusion in their omnichannel strategies is being driven by advancements in machine learning and AI. VUIs that possess real-world utility by virtue of, say, AI are useful to customers of all ages, not only senior citizens unable to use smartphones or computers.

Additionally, voice communication is a natural approach to offering new services for financial institutions that have traditionally served their customers through F2F interactions. For these reasons, financial institutions are now embracing VUI services.

### VUI use cases in Japan compared to the ones in US

In Japan, few financial institutions have launched VUI services so far. Those few include Nomura Securities, which has released an Alexa skill (a VUI app for Amazon Echo) that provides current price quotes and interday price changes for domestically listed stocks and the TOPIX equity index. Mizuho Bank's Alexa skill allows customers to check their account balances and review their transaction history.

Outside of Japan, the highest-profile VUI app offered by a financial institution is an Alexa skill released by Capital One in December 2015. With it, Capital One customers can check account balances, find out loan payment due dates, pay bills and track their income and spending, including the ability to review their transaction history by date or by branch location. Account inquiries and payments previously made in person at a branch or through a smartphone app can now all be executed with voice commands. Using Capital One's Alexa skill is like having a personal assistant.

American Express has released a functionally similar Alexa skill named Amex skill. With the Amex skill, cardholders can check their account balances, review recent charges, make payments and learn about offers from American Express. For security, users set a 4-digit PIN that they must input when launching the Amex skill.

In comparison to the VUI services offered by Nomura Securities and Mizuho Bank, Capital One and American Express's Alexa skills offer more appealing voice-commanded functionality, including even payments.

### Current issues and VUIs' potential within financial sector

Many still remain skeptical of the potential of VUI-enabled financial services due to privacy concerns. For example, an unscrupulous person within earshot of a VUI app user might overhear the user's PIN and account balance and access the user's account without authorization.

This vulnerability can be fixed by combining a VUI with a non-voice UI of smart speakers with touchscreen displays (e.g., Echo Show, Google Home Hub). Such dual-UI devices let users access functions with voice commands while also providing a graphical user interface (GUI) for inputting and displaying sensitive information, thereby providing a better user experience.

The VUI functions offered by device providers are expanding exponentially. As AI continues to advance, VUIs should become able to gather extra information undetectable by GUIs (e.g., tone of voice) with respect to conversions<sup>1)</sup> and abandonments<sup>2)</sup>, incorporate such extra information into their replies (e.g., by adding an empathetic comment when the user's voice sounds more tired than usual) and/or tailor their replies to the user's gender or age.

VUIs look increasingly likely to become a key channel inside consumers' homes. Forward-looking financial institutions that develop appealing services, including not only retrieval of account information but also payments and financial advice, should be able to gain early-mover advantage in the competition to build out the new VUI channel.

#### NOTE

1) "Conversion" is a Web marketing term that means attainment of the marketer's objective.

2) "Abandonment" refers to when a user switches to another service or otherwise ceases to be trackable by a service provider.

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