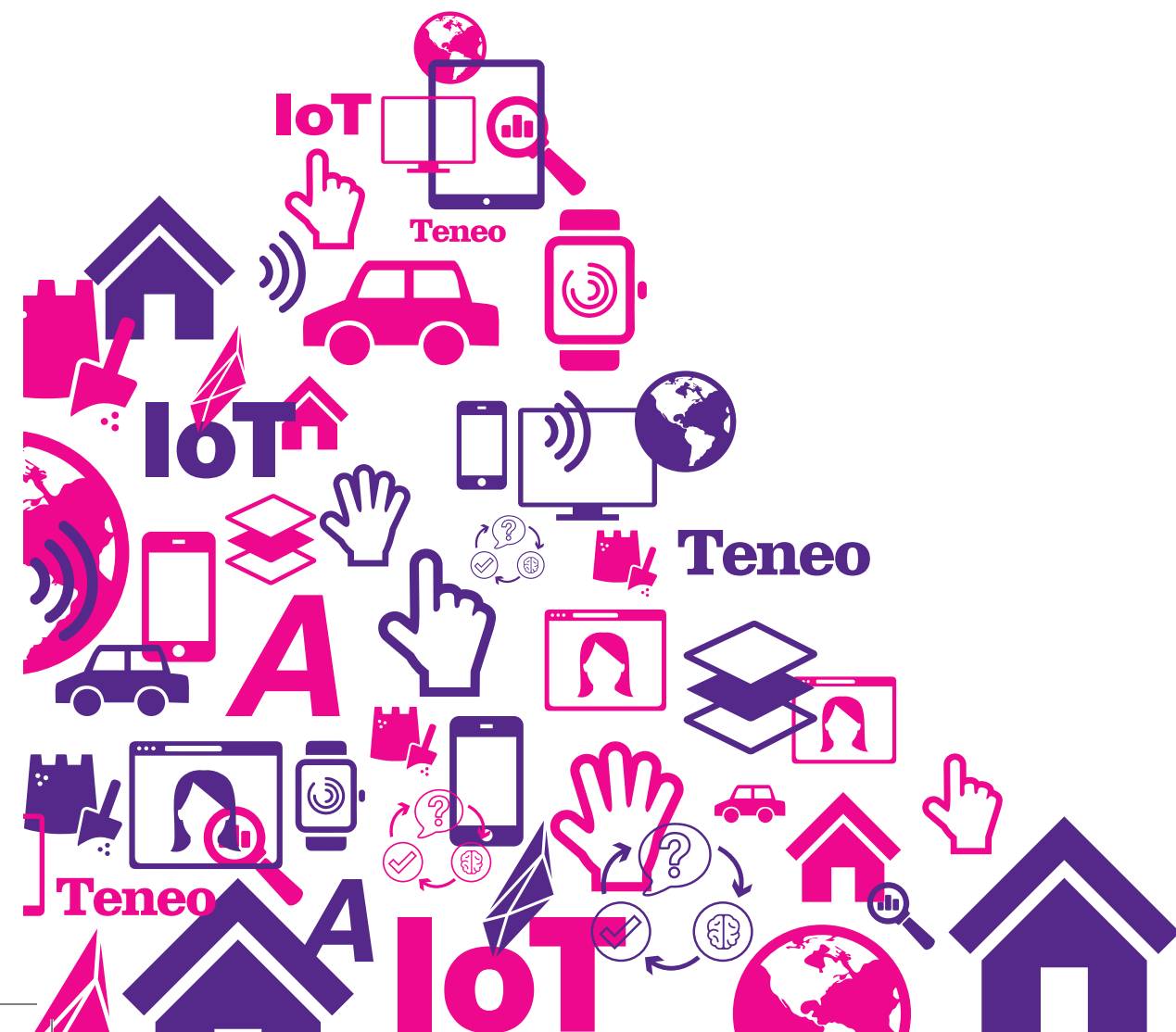# ARTIFICIAL
SOLUTIONS

The Rise of the Conversational Assistant
White Paper

Speech is no longer a passing phase, but a major interface that enterprises need to embrace in order to deliver the customer experience that their customers will be demanding within the next eighteen months.

This whitepaper, using independently commissioned research, looks at the current use of voice assistants by consumers and considers the implications and likely changes in the near future.

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The Rise of the Conversational Assistant

Executive summary

Speech is no longer a passing phase, but a major interface that enterprises need to embrace in order to deliver the customer experience that their customers will be demanding within the next eighteen months.

This whitepaper, using independently commissioned research, looks at the current use of voice assistants by consumers and considers the implications and likely changes in the near future.

Highlights include:

68%
of people already enjoy using a voice assistant service.

Over 49%
of people say that their usage of voice assistants has increased.

The over 45's age group are regular users.

However, not all the news is good. 70% wish their voice assistant understood them better. Users want context and humanlike understanding. They are demanding a more natural conversation with technology. One that enables them to have a more sophisticated experience with the companies and technology they interact with every day.
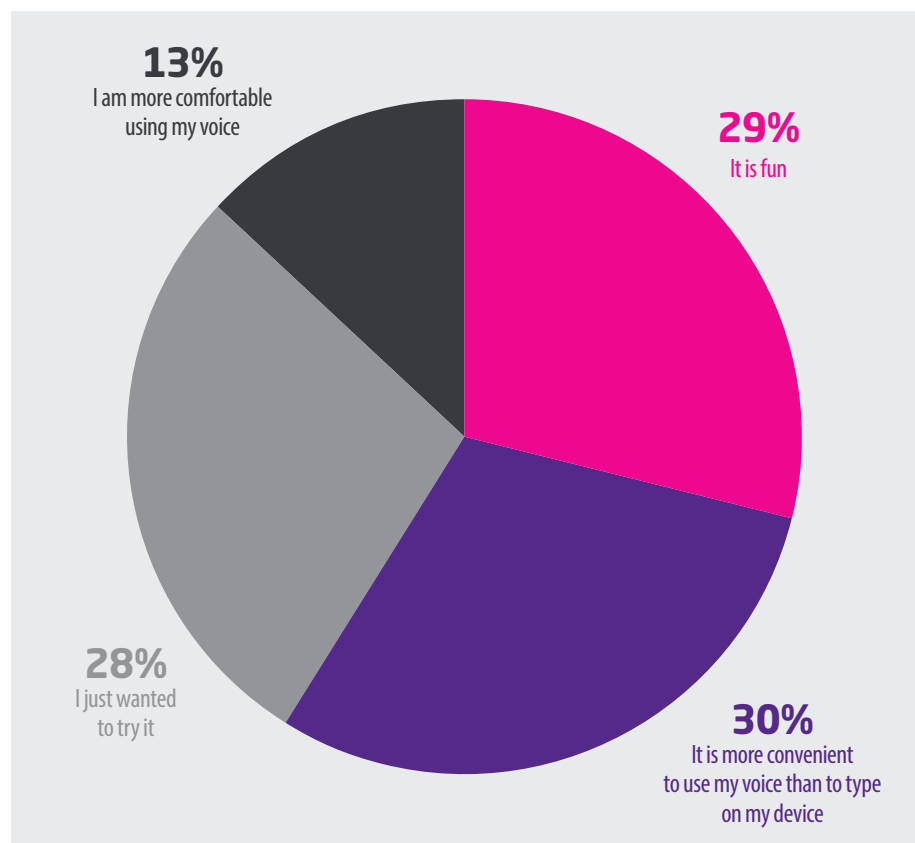
For enterprises, understanding and delivering on customer expectations of conversational interfaces will be critical to surviving this digital transformation.

Speech – the expected interface

Ever since Siri exploded onto the scene, the potential for humans to hold a natural, intelligent conversation with technology has finally seemed a possibility. The acceptance by consumers, and indeed the expectation to be able to communicate with devices, just by speaking, is now mainstream.

The reasons behind people wanting to use voice are broadly split between convenience over typing (29%), fun (29%), and trying out new technology (28%). But there is a smaller, growing band of people (13%) that are more comfortable using their voice. A group that didn't exist two years ago.

13%
I am more comfortable using my voice

29%
It is fun

28%
I just wanted to try it

30%
It is more convenient to use my voice than to type on my device

As the number of speech interfaces grow, this group, along with the "convenience over typing" camp, will significantly increase their share of the reasons as to why people want to use voice.

Enterprises must now consider how they will interact with customers because in the near future they will be demanding intelligent, natural language interfaces.

# The Rise of the Conversational Assistant

Current main players

It will come as no surprise that the current main players in the voice assistant market are Ok Google, Siri, and Cortana. Google takes up the larger market share at 62%, with Apple a close second at 58%, but Microsoft, a relative newcomer to the market with Cortana, is already making waves with 33% of people citing that they have used it. The speed at which Microsoft is playing catch up is proof that the tech giants want to dominate the natural language space and maximize the potential of the data gleaned straight from the customer's mouth.
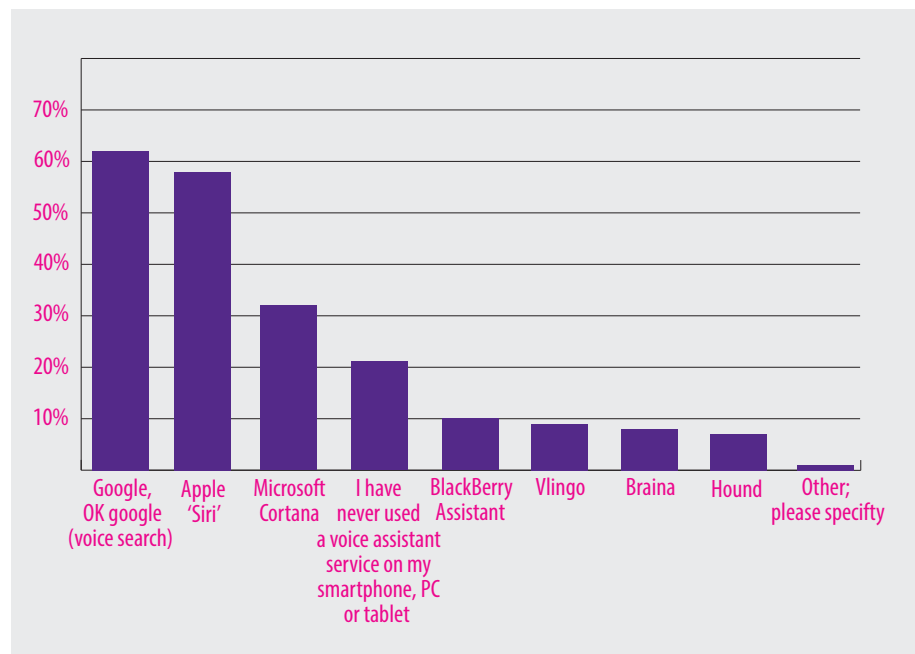
The next largest group at 21% are those people that have never used a voice assistant on a PC, smartphone or tablet. It is expected in the next twelve months that this will diminish as other consumer services, such as Alexa from Amazon and Google Home become more prevalent, and operating systems such as Windows 10 persuade users to start using voice.

While it's tempting for enterprises to consider using an embedded voice assistant as part of their AI strategy, there are several good reasons to reject this idea. Even if it were possible to utilize APIs to create a way to interact with customers, the data created may be totally or partially owned by the tech giant; the interface may be limited to just specific operating systems and devices; and any new channel used will almost certainly involve a complete reengineer of the application.
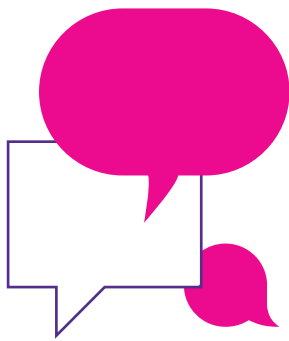
Who uses voice and why

Speech is no longer a passing fad. With 49% of users reporting that their usage of voice assistants over time has increased and only 5% reporting they use it less, natural language will be a major interface and deserves serious consideration. The fact that its use has grown already demonstrates that in certain situations it is the superior interface. One that users will chose over traditional GUIs when given the choice.

5%
I use it less

46%
My usage is about
the same

49%
I use it more
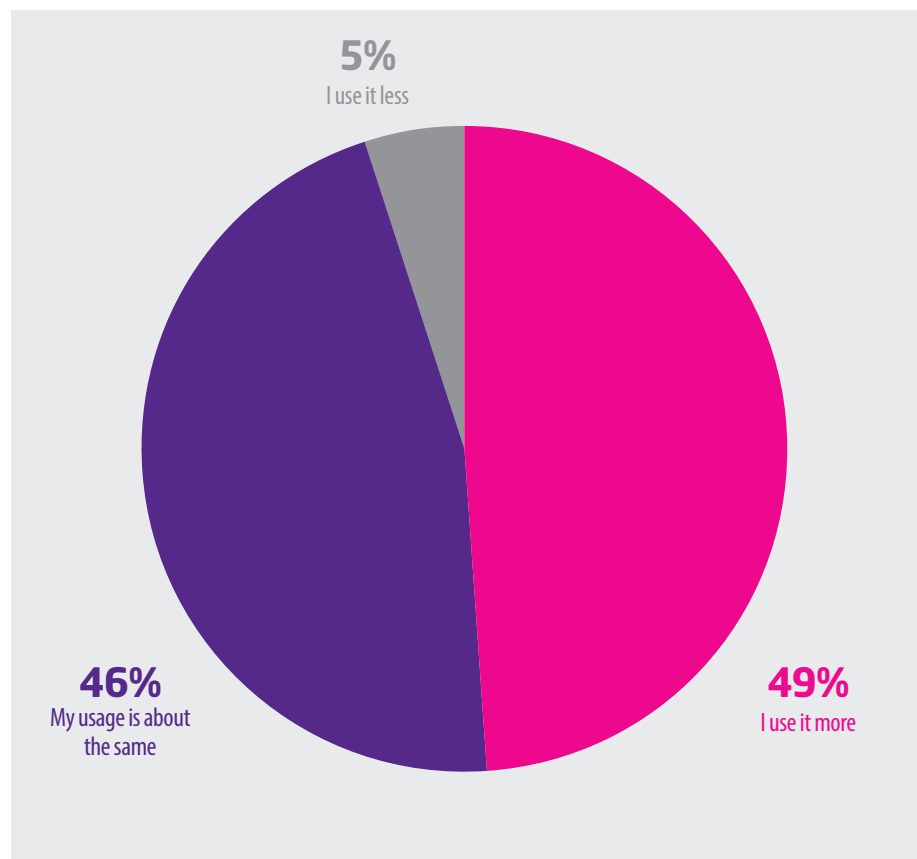
The Rise of the Conversational Assistant

While at least 68% of users talk to their voice assistant at least once a week, with over 40% using it almost every day, the reasons behind why they do so vary when age and geography are taken into consideration.
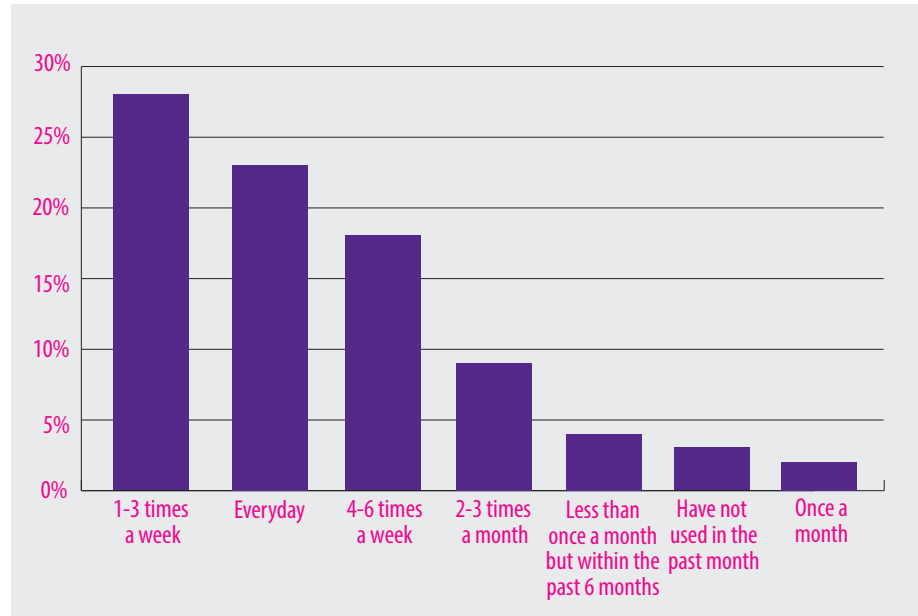
Millennials are the heaviest users of voice, and for enterprises that target this generation group, it highlights an important engagement path for gaining an edge over competitors.

In addition, the use of voice was heaviest in countries such as China, where language characters make the use of text as an input method much harder for the user.
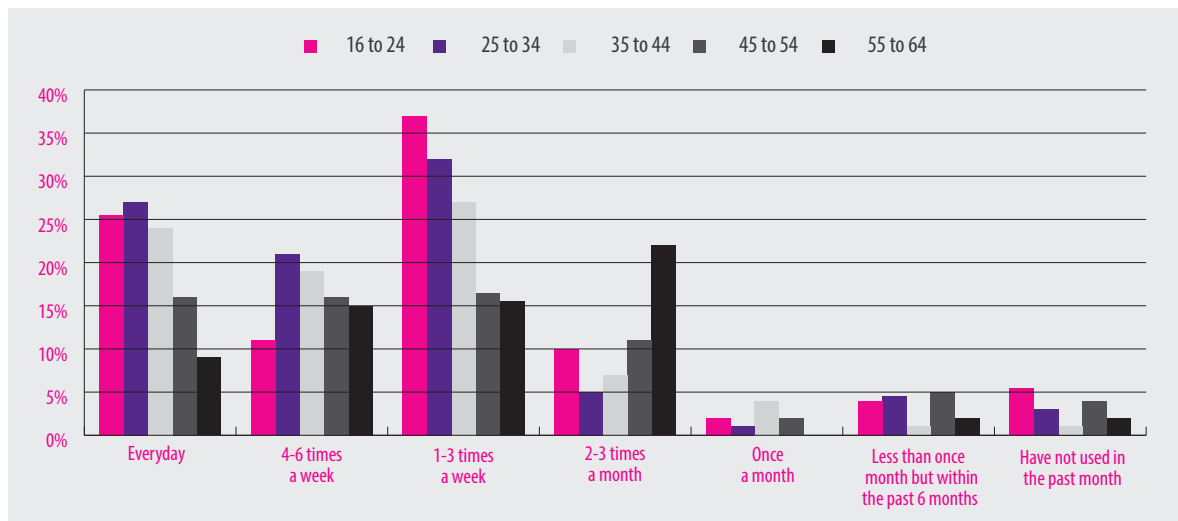

Perhaps somewhat more surprising is that the over 45s are regular users of voice assistants with 40% using it 4-6 times a week, possibly because traditionally they are the group that struggle most navigating GUIs.

The Rise of the Conversational Assistant

This is further substantiated when usage drivers are considered by age demographic. While convenience over typing is fairly consistent throughout all age groups, it is in the over 45s where the reasons of "It's fun", "I just wanted to try it" and "I'm more comfortable using my voice" drop off significantly.
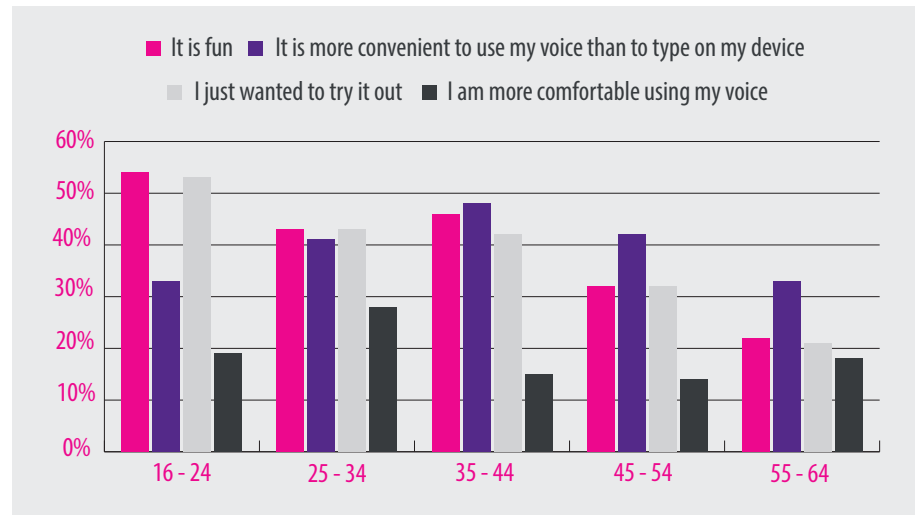
On the whole, people are still using their voice assistants for fairly innocuous tasks such as searching for something on the internet (52%) or checking the weather (33%). However, when asked what they had used their voice assistant for in the last month, over 28% indicated that they had contacted the customer service department of a business.
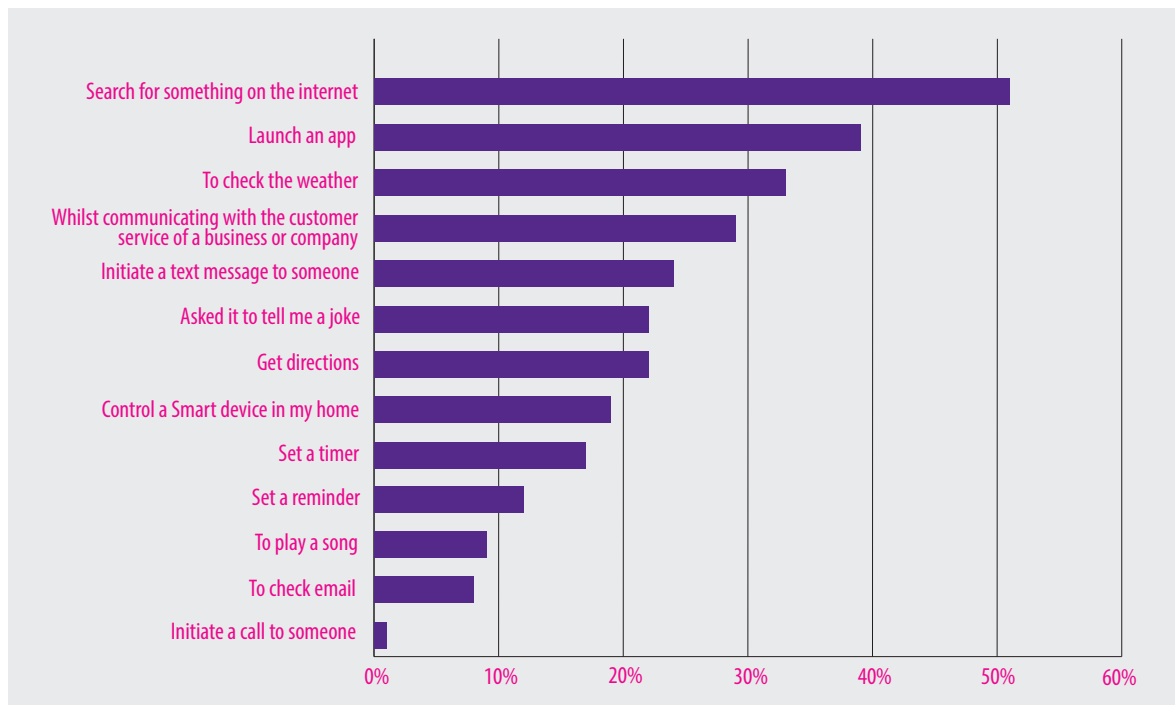
These statistics are indicative of the opportunities available for people to use voice as an interface. The willingness is there for people to use it, but up until now, enterprises have on the whole struggled to provide the applications. Those businesses that have taken the early plunge into natural language interfaces are starting to reap rewards as consumers gravitate towards them. Key to their success has been choosing a development technology that overcomes the traditional barriers in building natural language applications, such as the requirement of vast resources and a lack of agility.

What users think of voice assistants

There is an immense sentiment that voice assistants would be used more if the conversational capability was improved, with 68% of people saying that when it works as expected it is fantastic and extremely useful.

Users also wish that their voice assistant understood the context of their question better (70%) and two-thirds of people said that they would increase their use of voice assistants if they could converse more naturally with it. While some people struggle to think of new ways to use their voice assistant, less than half had concerns over privacy issues.
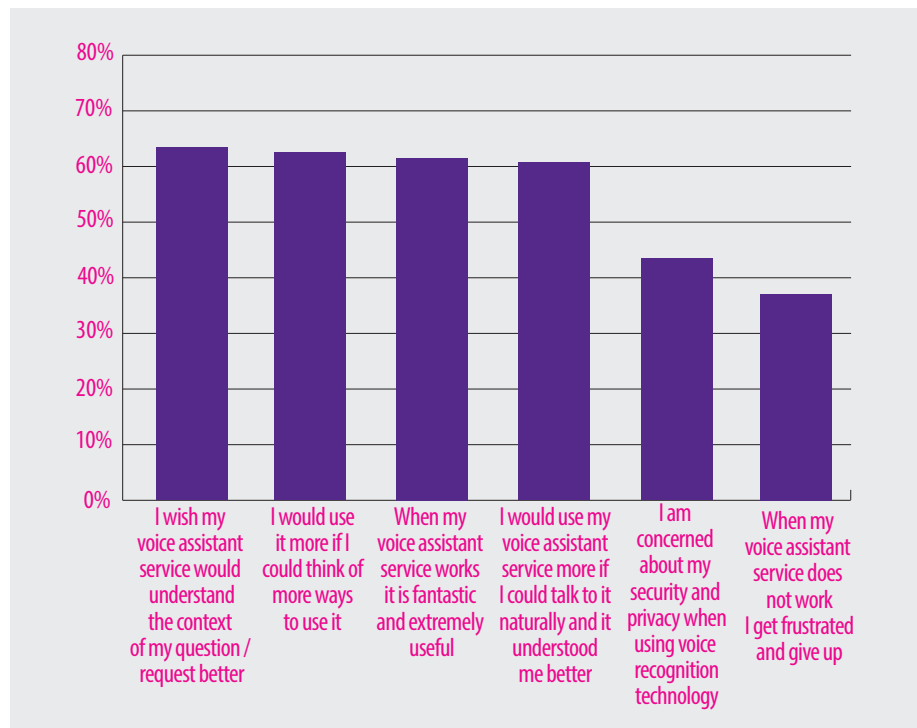
This desire to increase the use of voice assistants opens up new opportunities to enterprises. By implementing applications that offer context, humanlike understanding and are intelligent enough to command the conversation, not just respond to the user, businesses can offer their customers a more sophisticated experience.

Technology that delivers true conversational ability "out of the box" is available now. While many natural language technologies rely on vast amounts of data, which typically the average enterprise doesn't have available, to train the conversational side of the application, a few have it built-in already.
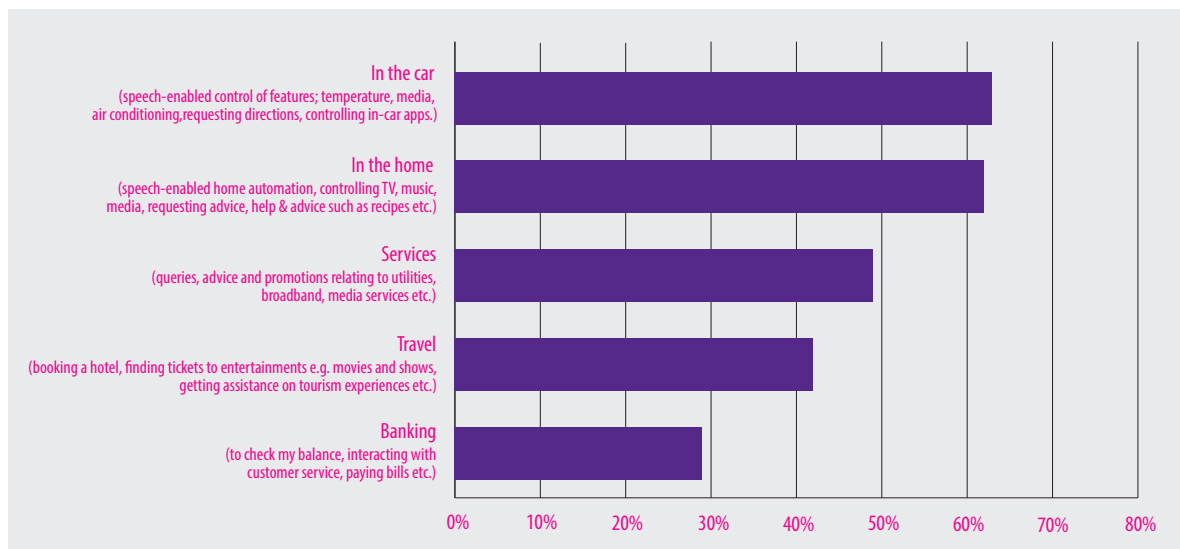
How people want to use voice

Alongside the desire to converse more naturally with technology, people can also see the advantages that voice offers when interacting with more complex interfaces such as home automation, which often takes several navigation steps to achieve even simple tasks. In contrast, a single spoken sentence can often convey all the information required to achieve the same result.

The same is also true of in-car applications where over 64% of people would welcome the opportunity of using their voice to carry out tasks while on the move. In addition, utility services, travel and banking were all seen as key areas that would benefit from voice interaction to simplify workflow processes.

In the car
(speech-enabled control of features; temperature, media, air conditioning,requesting directions, controlling in-car apps.)

In the home
(speech-enabled home automation, controlling TV, music, media, requesting advice, help & advice such as recipes etc.)

Services
(queries, advice and promotions relating to utilities, broadband, media services etc.)

Travel
(booking a hotel, finding tickets to entertainments e.g. movies and shows, getting assistance on tourism experiences etc.)

Banking
(to check my balance, interacting with customer service, paying bills etc.)

0%   10%   20%   30%   40%   50%   60%   70%   80%

In complex situations, where there are multiple tasks to be managed over different devices and operating systems, voice is the obvious interface. But simple short commands - that might work with a smartphone when setting, for example, a reminder - are not enough in these more complex situations. A statement such as "I'm coming home early, can you turn the heating up now and put the lights on in thirty minutes," would confuse most voice assistants. This is where the true value of an artificially intelligent conversational interface comes into its own.
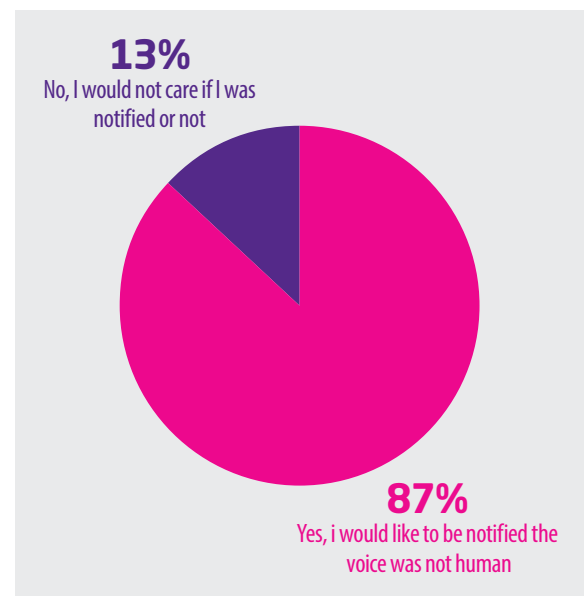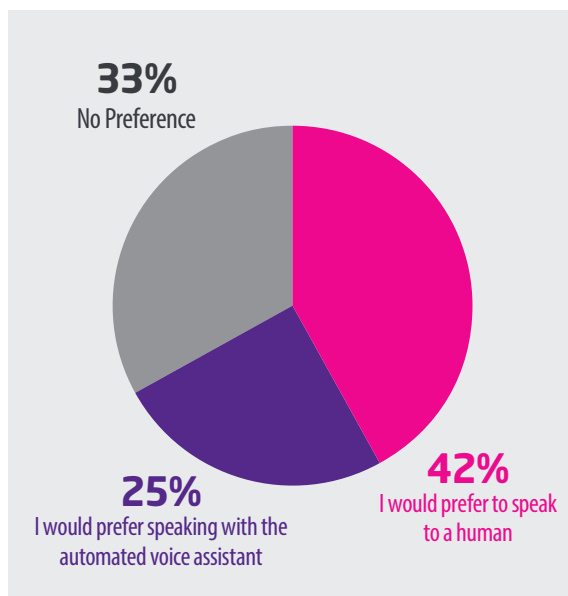
In developing a voice assistant, it is essential that enterprises place a high emphasis on the conversational ability of the end application. Assistants should be able to understand the context of a conversation, remember salient details, ask for extra detail and be able to continue the conversation as the user switches devices during their day.

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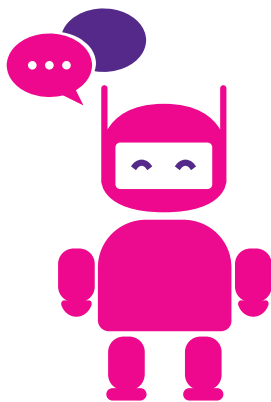
Humans prefer bots

Ever since the Turing Test was first conceived, chatbots have been trying to fool humans into thinking they are one too. As it turns out, 58% of people don't mind or would prefer to speak to a bot than deal with a human customer service agent. As human/machine interactions become more sophisticated with increased capabilities, it is expected that for reasons of speed, convenience and ease that the number of people actively seeking out a digital assistant to deal with their request, currently 25%, will increase significantly.

33%
No Preference

25%
I would prefer speaking with the automated voice assistant

42%
I would prefer to speak to a human

13%
No, I would not care if I was notified or not

87%
Yes, i would like to be notified the voice was not human

Interestingly, 87% of people would rather know they are talking to a digital assistant. This may be because it enables users to repeat questions without seeming foolish or that they know they can dispense with niceties and get straight down to the question they need answering. Either way, it's important that enterprises recognize that people like to know who they are communicating with and do not unintentionally appear as if they are trying to deceive their customers.

Many enterprises resolve this issue by providing a corporate persona, sometimes an avatar, sometimes just a name, that customers recognize as an automated support contact. Typically, they are available over the basic channels of web, mobile and email, but increasingly digital assistants are being used with good effect in call centers, and over social networks and messenger services, delivering a consistent, 24/7, multilingual service.

How people want to engage

Given the choice, people are three times more likely to interact with a voice assistant through their primary messaging app such as WhatsApp or WeChat than a dedicated on-board assistant such as Siri or Cortana.
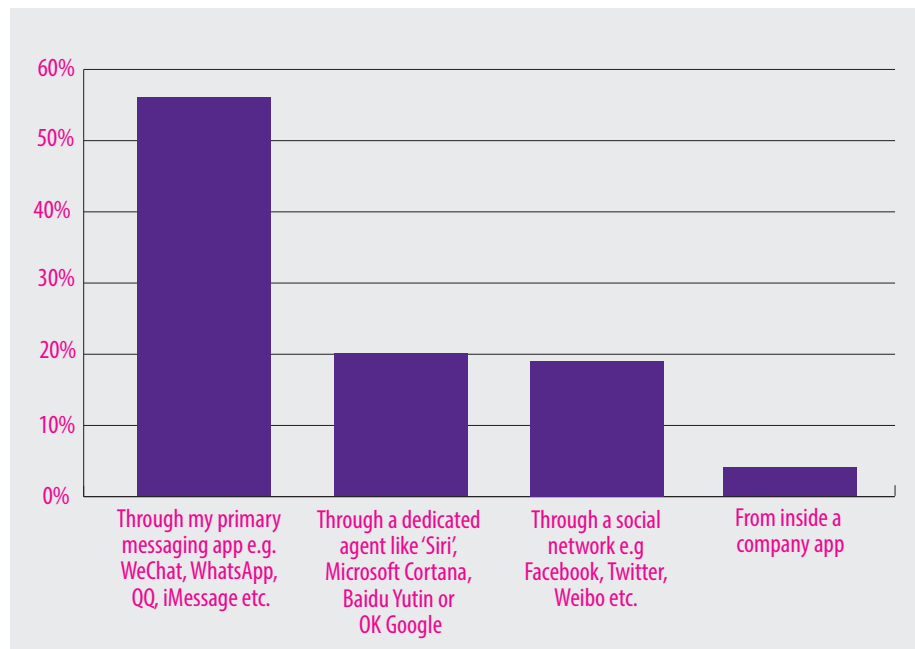
This is a significant detail for enterprises and highlights the importance of being able to easily port conversational applications to new and existing channels. While messaging apps may be a main communication method today, there is no guarantee that they won't be usurped next year by something else. This highlights that organizations should look for natural language development technology that enables the ethos of build once, deploy multiple times across multiple channels without the need to re-develop the solution.
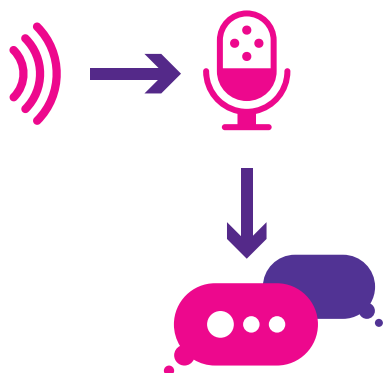
The next step for the Conversational Assistant

In the next eighteen months, enterprises that want to survive the digital transformation into AI need to develop intelligent conversational interfaces. They will be necessary, not just to communicate with customers, but to learn what customers are thinking, why they purchased, or - perhaps more importantly - why they didn't.

Historically, creating these sophisticated interfaces has required specialist skills, significant resources and a great deal of time. This misconception might send some businesses down a route that may be perceived as easier, and place their trust in the hands of the tech giants. For reasons of data ownership, limited reach and poor conversational ability already discussed, this would be a major mistake.

Teneo from Artificial Solutions offers an alternative. Teneo is a platform that allows companies to create artificially intelligent applications that interact with users in a natural and realistic way. It delivers sophisticated capability without the need for extensive development effort and time by automating many of the processes that make developing artificially intelligent applications so resource intensive, and of course works on the 'build once, deploy many' premise as standard. Teneo's advanced machine learning capabilities automatically writes the complex underlying language code and algorithms that simulate the way a human thinks.

With Teneo, customers can talk to devices, services and applications as if it was another human, and receive an intelligent response. Teneo remembers past conversations, and is able to veer off to discuss a different issue, then use its memory to return to the original topic. Unlike many humans, it also remembers a user's preferences from one interaction to the next.

But most importantly, Teneo is built for the future. There is no doubt that before long, digital assistants will develop into a more complex ecosystem where different interfaces are able to interact with each other to provide a seamless experience for the customer. To be a part of that, enterprises need a technology now that's fast and easy to use, and one that works simultaneously across devices and operating systems, in any language.

Teneo delivers this vision today.

Artificial Solutions has customers and offices around the world.
Visit www.artificial-solutions.com/offices to find your nearest office.

Alternatively, you can find us on social media:

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About Artificial Solutions

Artificial Solutions® is the leading specialist in Natural Language Interaction (NLI). The company's patented technology enables people to converse with applications and services running on computers, mobiles, wearables and other electronic devices in a humanlike, intelligent manner.

Called Teneo, it is the first complete platform to enable enterprises to rapidly develop and analyze natural language applications that embrace artificial intelligence through the use of machine learning and implicit personalization.

Teneo allows business users and developers to collaborate on creating sophisticated natural language applications in record time that run on any operating system, in 35 languages, without the need for specialist linguistic skills. Teneo also unlocks the knowledge held in immense volumes of natural language conversations, delivering unprecedented levels of big data insight and true 'voice of your customer' understanding.

Artificial Solutions' technology is deployed by hundreds of public and private sector organizations and used by millions of people. For more information visit www.artificial-solutions.com