ARTIFICIAL SOLUTIONS

Technology Giants' Digital Assistants will beat Google

Apple was the first to use Siri. Amazon, Samsung and Google have followed suit. The struggle is about power over our personal data. Rebecca Jonsson believes that whoever manages to create a digital assistant that becomes an alternative entry point to the Internet is the future winner.

by Karl-Johan Byttner, Veckans Affärer

The war on internet users' data is ongoing.

One of the battlefields is voice controlled digital personal assistants. It all began when Apple bought Siri Inc. in 2010 and introduced an eponymous service the following year.

Since then, companies like Amazon, Samsung and Facebook have bought or developed their own versions. They can manage your calendar, take notes, help you find a restaurant, translate, find the right information for you, tell you when your next appointment is, or which actor is playing a particular movie. They can also warn you that your flight is delayed and say when you need to leave to be on time for your next meeting.

A "digital employee", i.e. a virtual assistant that works for a specific company, can not only handle customer service and support issues but also book flights, provide information about various subscriptions and contracts or even take a lunch order.

A report from American Allied Market Research estimates that the market for intelligent virtual assistants will reach $3.6 billion in 2020, representing an average annual growth of 35 percent by 2020.

The market is far from being the main reason for the technology giants to home in on the area, according to Rebecca Jonsson, PhD in Language Technology and chief researcher at Artificial Solutions. Ultimately, it is because companies like Amazon, Apple and Samsung see the opportunity of becoming the entry point to the Internet; thereby opening up Google's cash cow - the search engine.

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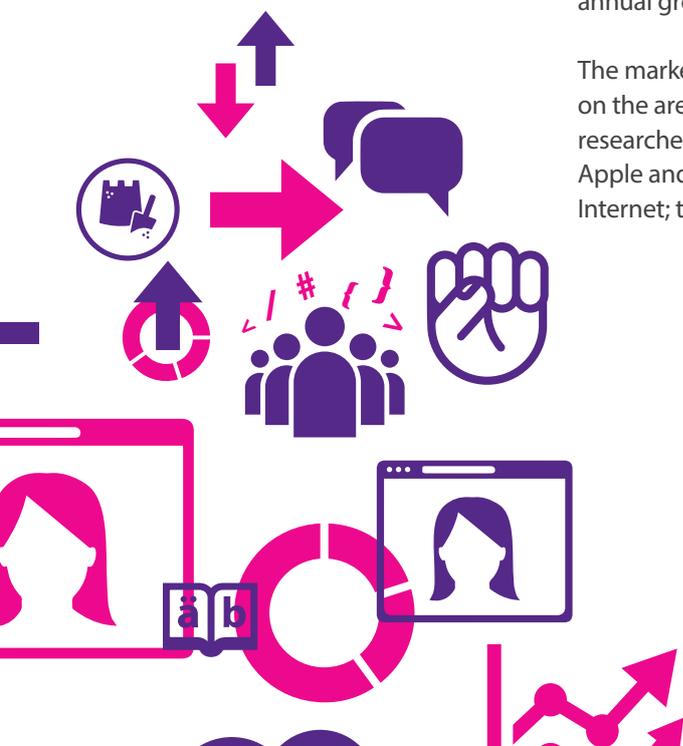
"You have to understand the context. Siri became a really big threat to Google's search engine and therefore Google had to react quickly", says Dr Jonsson. She uses the example of a person going out to eat and googling good restaurants in a specific area.

In a future scenario, the company that owns a personal digital assistant will be the one to own on that valuable information. Google has tried to counter the threat from competitors through Voice Search, a service where you google by speaking to your mobile or PC. Rebecca Jonsson believes, however, that the technology is not quite up to standards, with Google Now arriving as an integral part of Android version 4.1 in 2012.

Apple responded by buying Cambridge-based Startup Vocal IQ. Vocal IQ develops algorithms that can be used to predict data. Vocal IQ has claimed that today's Siri is a pure toy in comparison with what is to come.

Artificial Solutions, which started in 2001, developed Ikea's assistant Anna who offers assistance in 23 languages. In parallel with solutions for consumers, the company is developing internal personal assistants for clients like Shell and Telenor. The latter uses the assistant as a knowledge bank for employees, whereas Shell uses it to drive the sales process.

The company has also developed live chat robot Elbot who mixes sarcasm and irony for entertainment purposes. Elbot understands complex sentences, can interpret the user's feelings and

has won several competitions is to get people to believe that they are talking to a real person.

The company's chief scientist, Rebecca Jonsson resettled to Spain fifteen years ago to work at the Spanish telephone giant Telefonica, and was later a doctoral student at the Graduate School of Language Technology in Sweden. "When I applied to the University in 1995 no one knew what computational linguistics was. But I liked both languages and computers so it felt like a perfect match for me" she says.

Where do we stand today in terms of speech-driven interaction between computers and people?

"There has been much progress in terms of speech recognition. Google's technology, for example, has gone from 23 percent of the words being wrong to 8 percent in three years. And we need well-functioning voice recognition technologies to develop new forms of personal assistants."

When is the digital employee so advanced that it must be included in the number of employees in the Annual Report?

"Haha, it could happen. What we see now is that customers carefully look at what it costs versus what you save. So in that sense, the assistant is already in the accounts."

"Today, the user still has to figure out the issues that should be addressed in order to take full advantage of the personal assistant. The big challenge is to get them to have a natural dialogue."

Siri is popular among schoolchildren. Apple focuses on the humor in the responses.

"Yes, or just take Microsoft's Cortana. They have eight writers with journalism or writing backgrounds that try to write interesting answers to give the assistant a personality."

However, it was not so good when Microsoft introduced its new self-learning Twitter Robot, Tay, recently. It took only a few hours of dialogue with Twitter users until the robot praised Hitler and calling for genocide. After one day Tay was taken offline to be "upgraded".