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Who's Afraid of Speech Recognition?

In my conversations with clients, partners, and Interactive Voice Response (IVR) application developers, I am often struck by just how much of a bum rap speech recognition continues to undeservedly receive. Deploying an IVR application that uses speech recognition rather than one that relies exclusively on touchtone for input is still considered a risky endeavor.

The fear, understandably, is that callers will be frustrated by poor speech recognition and as a result will either hang up in disgust or angrily press the zero key to reach a human being. But almost always, that fear is based on personal, anecdotic "evidence", rather than sound, empirically-based research. What usually takes place is someone having a bad experience with a badly designed Voice User Interface (VUI) and the one thing they remember about that VUI is what made it novel: speech recognition.

In this issue of the VUI view, my aim is to make the case that the negative perception held about speech-enabled IVR applications is undeserved and unfounded. Indeed, I will argue that given two equally well designed VUIs, one relying exclusively on touch-tone and one that uses speech, the speech-enabled VUI will beat the touchtone-only VUI anytime.

How users feel about speech automated systems

First let's take a look at the bottom line: How has speech been received by IVR users?

The results below are drawn from a study commissioned by Nuance Communications and carried out by Harris Interactive, in which 326 interviews were conducted to gauge customer impressions and attitudes towards speech recognition systems.

Here are some of the results:

1. 61% of surveyed people who have used speech applications said that they were "highly satisfied" with their most recent speech encounter
2. 76% said that they found the system to be "easy to understand"
3. 73% said that the system recognized what they said
4. 70% said that they found the system "easy to use"
5. 56% of users indicated that they will "definitely" or "probably" use speech systems again, while only 7% said they would avoid speech apps in the future.

Two additional interesting observations about increased user-acceptance and preference under the right circumstance should be added to the above:

1. Callers in high-need situations, such as travelers, are far more likely to accept or indeed even to prefer speech than those calling about routine household needs.
2. When a 2-minute wait hold for the live agent is added to the call-center queue waiting time, 43% of callers strongly prefer speech applications over waiting for the live agent.

Speech vs. Touchtone

So speech is relatively well received. But how does it stack up against traditional, time-tested touchtone-only systems?

Here are some results:

1. 9 out of 10 users said that they preferred using a speech system versus traditional touchtone-only IVR
2. 70 % said their overall customer experience would be improved if speech were used instead of touchtone only

Moreover, speech enabling a touchtone-only IVR system has been shown to:

1. Increase call completion rates on average by 60%.
2. Decrease transfers to live agents on average by 20%.
3. Decreases call duration on average by 4%.

Why Speech is better

1. Speaking is more natural than punching buttons. Speaking the name of the person or department you would like to be transferred to is far more natural and easier to execute than spelling the name with the key pad.
2. Speech makes navigation easier. No doubt, the one thing that people hate the most about IVR systems is being forced to traverse deep menu trees to do what they want to do. Being able to naturally invoke commands ("go back", "repeat that", "help"), takes the user interaction to a whole new level of usability.
3. Speech enables more automation. Imagine having to listen to a list of 20 cities, one after the other, before being able to select the city you want by punching a number. What if you simply spoke the name of that city instead? Indeed, a whole class of applications is now possible thanks to speech.