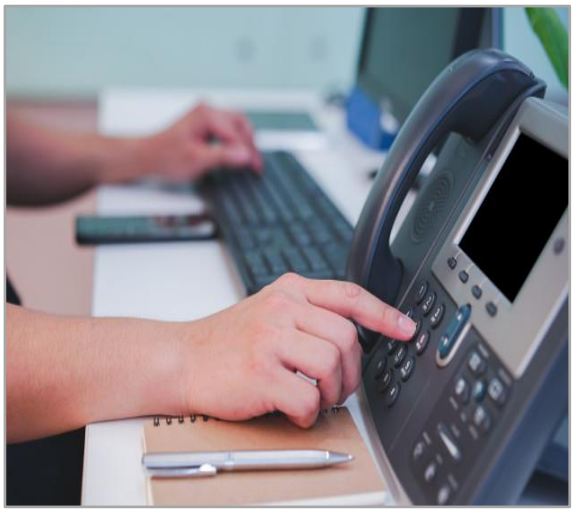
SCOPE OF VOICE ASSISTANTS IN EVERYDAY LIFE



Voice assistants are bots powered by artificial intelligence, voice recognition, and natural language processing (NLP) to answer questions and hold conversations audibly. While text-based interfaces require machines to process text, analyze it, and map out a response, voice assistants do this audibly. In simple terms, you could speak to voice assistants out loud instead of having to click on call-to-action buttons or type out your question.

The technology behind voice assistants, however, is quite complex and relatively new compared to text-based interfaces. To get a better understanding of voice assistants and their place in chat bot marketing, let's look at how exactly they work.

How It Works

We know voice assistants answer questions and hold conversations with users out loud instead of through text-based interfaces, but this is an over simplification of how they work. Below are the various steps required for voice assistants to give us our desired answers.

1. Some bots use passive listening

Voice assistants like Alexa, Cortana, and other consumer-facing bots are considered passive listening devices. This essentially means the assistant is constantly monitoring its surroundings for trigger words. Once the trigger word is

said loud enough for the bot to hear, it will begin listening to the user's query. Other voice assistants like Siri or Google Assistant have options to either be passive listeners or tap/touch activated. Some users prefer more control over their devices with recent concerns surrounding data privacy.

2. Voice recognition follows

The bot has been activated and now it's ready to listen, but how exactly does it know what it's listening to? This is made possible with voice recognition software, a subset of artificial intelligence and deep learning. Sound waves are converted into structured, more understandable data for the machine to process. Everything from tone, pitch, volume, and the precision of speech will be factored in with voice recognition.

3. Followed by natural language processing

More complex nuances of the human language also need to be broken down before information retrieval. This includes things like context, user intent, slang, accents, and other loosely formal aspects of the human language. Human's and machines are on totally different wavelengths when it comes to language. While we have no rigid guidelines, machines require structure, detail, and process.

TAKE AWAY

V e in e ligent innovations which is going to play a major role in the future.

4. Information retrieval takes place

vAfter processing the user's query using voice recognition and NLP, it's now time for the voice assistant to retrieve information

related to the question. Voice assistants do this by calling on various APIs and accessing something called a knowledge base, which acts as a central repository to draw information from.

5. Information is then output

Now onto the final step, outputting relevant information for the user. A lot has led up to this point. Different tones, vibrations, and volumes are standardized for the machine with voice recognition. Natural language processing then assists the machine with understanding exactly what it just heard. Then, information is retrieved from a variety of sources. The end product is an answer that hopefully satisfies the user's request.

When to use voice assistants

Voice assistants have become quite popular amongst consumers. Amazon alone has sold more than 50 million of its Echo units – the device that powers the Alexa bot. Most consumers are simply using their devices to check the weather, who won last night's game, what's the capital of Vermont, and other simple voice commands. Only two percent of users are actually making purchases through their voice assistants, and about 20 percent ask their assistants to check the status of online orders. A lack of graphical user interface (GUI) is the main reason for consumers' lack of confidence purchasing through their voice assistants. A GUI allows users to compare different products, look at reviews, and dive deeper into research.

Voice assistants for business

Consumers and voice assistants go hand-in-hand, but we'll soon see more businesses leverage voice assistants to automate day-to-day tasks. In a recent survey of more than 600 senior decision-makers, 31 percent see voice technology as beneficial for daily work.

One example of this is in business intelligence where decision-makers rely on graphs, charts, and dashboards to break down KPIs and reports. Using a voice assistant, the decision-maker can receive these reports audibly without having to shift priorities. Another example is in human resources (HR) and recruiting, both of which can benefit from automation. Imagine having a voice assistant break down different candidate profiles using current employee baselines and models, along with market data. This would remove lengthy processes, and the recruiter can simply assess the cultural fit of the candidate – streamlining the hiring process.

TAKE AWAY

Voice assistants can be used for personal as well as business purposes. It is designed in a way that can suite most of human requirements.

Voice assistants and the future

For now, it's evident that voice assistants are better at resolving simple, non-business-related questions for human users. But when it comes to customer support, marketing, and sales tasks, text-based chat bots take the cake. This isn't to say voice assistants aren't the future, only more time is needed to map out use cases in business. Advancements in AI, NLP, and machine learning will open up new opportunities.

Streamlined Conversations

Previously both assistants were dependent on a wake word (Alexa or Ok, Google) to initiate a new line of conversation. For example, one would have to ask "Alexa, what's the current temperature at the hallway thermostat?" and then have to say, "Alexa" again before requesting that the voice assistant to "set the hallway thermostat to 23 degrees." It would be more convenient and natural for the user to say, "Alexa, what's the current temperature at the hallway thermostat?" and then simply say "set my hallway thermostat to 23 degrees," without requiring the wake word again, and now that's possible.

Compatibility and Integration

When it comes to integrating voice technology with other products, Amazon has been ahead of the game. Those who use Alexa will be familiar with the fact that the voice assistant is already integrated into a vast array of products including Samsung's Family Hub refrigerators. Google has finally caught on and has announced Google Assistant Connect.

Search Behaviors Will Change

Voice search has been a hot topic of discussion. Visibility of voice will undoubtedly be a challenge. This is because the visual interface with voice assistants is missing. Users simply cannot see or touch a voice interface unless it is connected to the Alexa or Google Assistant app. Search behaviors, in turn, will see a big change. In fact, if tech research firm Juniper Research is correct, voice-based ad revenue could reach $19 billion by 2022, thanks in large part to the growth of voice search apps on mobile devices.

WHAT WE REALLY NEED TO EXPECT

Advancements in a number of industries are helping digital voice assistants become more sophisticated and useful for everyday use. Voice has now established itself as the ultimate mobile experience. A lack of skills and knowledge make it particularly hard for companies to adopt a voice strategy. There is a lot of opportunity for much deeper and much more conversational experiences with customers. Technological advances are making voice assistants more capable particularly in AI, natural language processing (NLP), and machine learning. To build a robust speech recognition experience, the artificial intelligence behind it has to become better at handling challenges such as accents and background noise. And as consumers are becoming increasingly more comfortable and reliant upon using voice to talk to their phones, cars, smart home devices, etc., voice technology will become a primary interface to the digital world and with it.