



Enterprise Voice Assistants –Market Analysis

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Enterprise Voice Assistant - Market Landscape

Voice assistant technology paving its way into enterprises

The rapid progress in natural language processing has led to the development of tools that can understand human speech and can respond at a high levels of accuracy and relevance. As a result, voice assistant in enterprises is emerging as an essential way of interacting with its employees and customers.

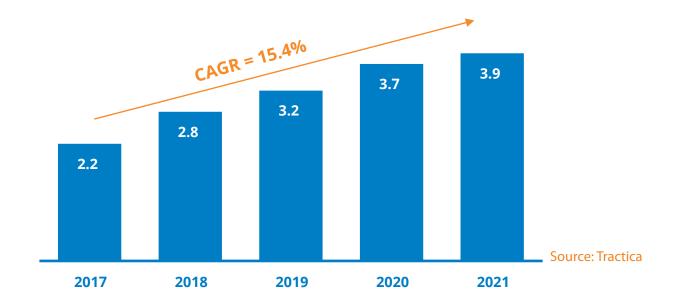


Enterprise voice assistant: Market landscape

- Voice assistant technology which was earlier popular among consumers is making its way into enterprises to improve business productivity and have a more engaging interface with their customers and employees
- On The continuous investment by the vendors to offer advanced technology to their consumers will propel the market growth in the future
- Microsoft Cortna and Apple Siri are the most popular enterprise voice assistants; however, Alexa for Business, being a late entrant, has been able to set up a stronger foothold in this market
- Based on a survey conducted among 500 IT and business decision-makers in developed economies, 28% of the enterprises have adopted some sort of a voice assistant until June 2018



Global enterprise voice assistant: Market size (in bn)



Wayne Kurtzman, Research Director at IDC

"Voice will very much have a big part to play in how we collaborate and work over the next 10 years"



Voice-to-text dictation is the most common task performed by enterprise voice assistant



Benefits to enterprises in adopting voice assistant technology

Voice assistants help firms engage with their employees as well as consumers



Benefits that firms reap from Voice Assistant usage

Employees

- Automating low-value tasks of employees to operate as virtual colleagues
- Simplifying administrative use cases Automating meetings, Email & calendar management, etc.
- Effective communication Voice assistant can be integrated with Skype, and Zoom, to assist in noting key points during conversations

RRR Customers

- Firms can delight customers through anticipative marketing (personalized recommendations)
- Improved customer care support, as AI powered voice assistant can collect and analyze data on good and bad customer interactions
- Engaging customers through voice assistant while purchasing





Some real life instances that use enterprise voice assistants:



Whirlpool has made its appliances smart by enabling users to instruct the devices through voice, either through Google Assistant or Alexa



Philips has manufactured LED smart bulbs that are compatible with Amazon Alexa, Apple Home Kit, and Google Assistant



Belkin's Wemo automation appliances has developed smart plug-in switches, lights, security cameras, which can be paired with Amazon Echo or Google home



GE launched Kitchen Hub- a complete smart kitchen, at CES event in Jan'18



Nest has launched Nest Learning Thermostat, a smart thermostat with self-learning capabilities, and which can be controlled by an Alexa App on a mobile

Firms leveraging voice assistants for improved responsiveness



Exelon voice assistant: To help customers with billing info

- Exelon, a Chicago-based utility giant which is into electricity and natural gas distribution, had deployed a voice assistant bot to help its customers with billing information, and energy-cost saving ideas and outages
- The voice assistant bot relies on natural language processing and artificial intelligence to understand conversations and provide clear answers to the different stakeholders
- The AI powered voice assistant bot has helped deliver convenience and personalization to millions of its consumers

Google Assistant



"OK Google, buy Up & Up laundry detergent"



Okay, i found something from Target on Google Express. I can get Up & Up Liquid Laundry Detergent for \$6.99, Should I add that to your cart?



"Yes, please."



I ve added it to your Google Express cart.



"OK Google, add Up & Up laundry to my shopping list."



Added





Large retailers enable customers to shop using voice

- Since October 2017, large retailers such as Target, Costco, Walgreens and PetSmart, have started using voice assistants to
 enable consumers with voice-assisted shopping capabilities
- These efforts aim at catching up with Amazon, which in 2015 itself, had enabled voice shopping from its Echo devices by talking to Alexa



Firms using voice assistant to boost brand engagement

Company

Description



Dominos, the pizza chain, rolled out a voice-activated pizza order app in 2017, which was developed by Nuance, a speech recognition firm. It will help the consumers order pizza using their voice, in an accurate and efficient manner



Whirlpool collaborated with Amazon to integrate Amazon Alexa into its home appliances products to enable the products operated through voice commands



PayPal has allowed iPhone and iPad users to send and request money in 30 countries around the world using voice



Munich Airport has partnered with Watson Assistant to help passengers by automatically providing real-time airport information. It will also help them automatically check into a hotel upon landing at the airport, and pickup of a rental car already programmed with the hotel's address

Challenges faced by enterprises in adoption of voice assistant

Firms willing to adopt voice assistants; however data security is a major concern for them

Nearly 94% of the businesses expect to be using some sort of voice AI with customers by 2020, according to a survey by Pindrop conducted among 500 IT and business decision-makers in the US, France, Germany and the UK. However, concerns regarding data security is a key challenge that restricts adoption of enterprise voice assistant.



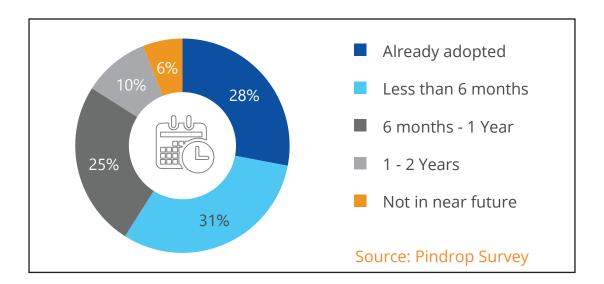
Pindrop survey: Market analysis

- The number of businesses to utilize voice to interact with their customers will triple by 2020, with over two-thirds planning to use voice for the majority of interactions, and nearly one fourth to use voice for all interactions by 2023
- However, most of the business have raised concerns regarding the ability to keep the data safe acquired through voice-based technology
- Moreover, concerns over the security of personally identifiable information (PII) and GDPR compliance, are also likely to be growing points of contention, which will restrict adoption of enterprise voice assistant





Timeline to deploy voice technologies



Business users feedback in Pindrop's report

"Though businesses are welcoming voice technology, there are also high levels of concern (80 percent) regarding the ability of businesses to keep the data acquired through voice-based technology safe."

Data ownership is a key barrier to adoption of enterprise voice assistant



Concern regarding data security

- Most of the companies willing to adopt voice assistant technology are concerned regarding the safety of the data acquired through voice-based technology
- Enterprises are concerned about sending confidential conversations, data and interactions outside the enterprise firewall; restricting the adoption of voice assistant

Misunderstanding human request



- In several scenarios, voice assistants fail to understand human language and execute inaccurate commands
- As a result, firms in enterprise voice assistant space are working towards improving speech recognition technology

Misunderstanding human request



- Voice assistant technology is in nascent phase and evolving. The firms planning to adopt Voice assistant are still unaware about how exactly voice assistant technology can explicitly help them
- These factors restrict the adoption of enterprise voice assistant technology



Key players in enterprise voice assistant market

Key players in enterprise voice assistant space







Key Highlights

- Voice assistant technology has been adopted widely in consumer electronics industry; enterprise voice assistant players have also started to focus their attention on the adoption of their products to enterprises in order to increase their market share
- Microsoft Cortana and Apple Siri are the most commonly used voice assistants for businesses; however, Alexa for business is gaining popularity and giving stiff competition to Cortana and Siri

Vendors in enterprise voice assistant market: An overview (1/4)

Company

Description



- It was launched in Nov'17 by Amazon, to enable businesses and organizations to bring Alexa into the workplace
- It is a paid subscription service that enables companies to use Alexa to join conference calls, schedule meeting rooms, and control their devices by using voice.



- Its solutions are designed for multiple industries, and built on a leading conversational computing platform. The solutions help businesses offer personalized experiences to customers
- Its solutions include:
 - IBM Watson Assistant for Automotive industry
 - IBM Watson Assistant for Hospitality industry
 - IBM Watson Assistant for Industry (customizable depending on the business requirement)



Company

Description



- It is a virtual assistant created by Microsoft for Windows 10, Windows Phone, Invoke smart speaker, Microsoft Band, Xbox One, iOS, and Android
- Microsoft's deep presence in enterprise productive tools makes it ahead of its competitors. It has integrated Cortana into Skype to allow users to order food, make calendar appointments, etc.
- **⊘** Cortana runs on various IoT devices like fridges, thermostats, and even cars



- It was unveiled during Google's developer conference on May 18, 2016. Google Assistant was designed to be a conversational and two-way experience. The contextual understanding of Google Assistant makes it stand out from its competitors
- In April 2017, it allowed third-party developers to build their own hardware to run Google Assistant. It has been integrated into Raspberry, cars from Audi and Volvo, and smart home



- It is a virtual assistant, which is part of Apple's iOS, watchOS, macOS, HomePod, and tvOS operating system
- Its speech recognition engine is provided by Nuance Communications, and uses advanced machine learning technologies to function
- It is looking to penetrate into banking and hospitality industries to compete against other enterprise voice assistant players in the market



- It provides a virtual assistant which is used in several industries
- The eGain applications include:
 - eGain Mail (high volume email management)
 - eGain Voice (voice over the Internet)
 - eGain Assistant (life-like conversational self-service)



- Nuance Nina, an intelligent virtual assistant, is designed to deliver an intuitive, automated experience to enterprises, by engaging customers in natural conversations using voice or text
- It has been ranked #1 by Forrester in its virtual assistant evaluation report due to its stout product vision and differentiated enterprise-grade security



Description



- - Anboto virtual assistant for customer service
 - Anboto intelligent chat
 - O Anboto automatic email response & management



- It is a free and open-source intelligent personal assistant and knowledge navigator for Linux-based operating systems that uses a natural language user interface
- ☑ It is considered to be world's first fully open-source AI voice assistant



- Its virtual assistant allows enterprises to increase their productivity by engaging consumers as well as employees
- O It provides industry specific solutions (different solutions for different industries)

Rebinlabs

- It provides voice assistants which are customizable, have conversation natural language processing, and can operate in multiple languages
- Its platform supports agents for various tasks such as messaging, calendar, local search, traffic, weather, music, social, newsfeeds, device control, app management, note taking, task management, web search, and vertical search



- It develops voice-recognition, natural language understanding, sound-recognition and search technologies
- - Houndify (voice-Al developer platform)
 - O Hound (voice-enabled digital assistant)
 - SoundHound (music recognition mobile app)



IBM's Watson Assistant: Key solutions

Watson Assistant is an enterprise assistant that helps businesses enhance brand loyalty and transform their customer experiences by delivering personalized services while ensuring data privacy. IBM has introduced its Watson Assistant for hotels, hospitals, banks, offices, restaurants, and connected cars.

Transform call center with Watson Assistant

- Most call centers are slow to respond due to aging technology and processes that rely solely on IVR Systems and human agents



Get started with 10,000 API calls per month at no cost. Lite plan services are deleted after 30 days of inactivity

IBM Watson Assistant for Automotive

It is a digital assistant designed to enhance in-vehicle experiences. The benefits are listed below:-

- Simplify maintenance and upkeep, and promote aftermarket services
- Seamlessly create a smart, voice-enabled conversational interface for the vehicle
- O Deploy advanced technology optimized for future connected car demands



Starting at \$22 USD per 1000 digital interactions

IBM Watson Assistant for Hospitality/ More industries

It offers a customized digital assistant to provide a differentiated and personalized experience for hotel guests, as well as for other industries



Pricing (for hospitality and other industries)

- O Hospitality Starting at \$70 USD per 1000 digital interactions per month
- Other Industries Starting at \$20 USD per 1000 digital interactions per month

Wayne Kurtzman, Research Director at IDC

"Voice will very much have a big part to play in how we collaborate and work over the next 10 years"



IBM targeting different industries through Watson Assistant



IBM targeting several industry verticals

- IBM is targeting industry verticals such as Industrial,
 Automotive and Hospitality, to effectively communicate the benefits of Watson Assistant
- IBM is providing Watson Assistant to different enterprises who can customize it depending on the business requirement with their own brand voice. For instance, Watson Assistant is used by BMW to empower drivers with voice assistants
- The Royal Bank of Scotland uses IBM's Al assistant in its contact center calls. Watson Assistant is also deployed at Munich Airport to provide guidance for travelers
- A key challenge for Watson Assistant is market education, helping firms understand use cases in which Al assistants can be relevant for cost reduction, customer service improvement, and workflow automation
- Another drawback to IBM's approach is that services are harder to sell than products and will depend on the willingness of firms to roll out such services



A driver interacting with Watson Assistant provided by Harman, an automotive electronics firm. It has created a digital cockpit system for Maserati GranCabrio

Bret Greenstein, VP of IBM Watson IoT "IBM is selling Watson Assistant directly to businesses rather than consumers. The aim is to provide AI assistant technology to different enterprises which can put its own brand voice by customizing features for specific uses"

Alexa for Business is a pay-as-you-go service

Alexa for Business allows organizations of all sizes to introduce Alexa to their workplace. Its pricing is based on the number of shared devices being registered, and the number of users being enrolled.



Overview: Alexa for Business

Alexa for Business can act as an intelligent assistant and can help the organization to be more productive in the following ways:

- Manage schedule by setting reminders and handling the calendar
- Dial in to meetings and conference calls (can host meetings and set up the agenda too)
- Search for quick information such as latest sales data, or inventory levels in the warehouse
- Allows to add voice to products and services in order to provide rich, personalized voice experiences for customers





Pricing of Amazon Alexa for business



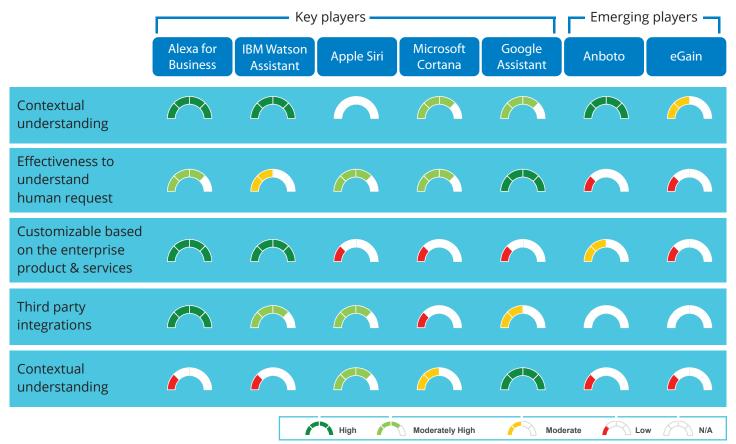


The enrolled users can use an unlimited number of personal devices.

Subscription fees are prorated daily, and so the price is based on pay-as-you-go service

Note: - There are no up-front fees, and no long term commitment

Comparative analysis of enterprise voice assistant players



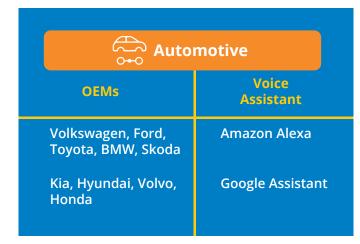
Refer notes for details



Customer Landscape and Case Studies

Automotive, Retail, Banking and Hospitality are early adopters of voice assistants

Highlighted below are some of the firms in different industries employing voice assistant technology



Retail	
Firms	Voice Assistant
Walmart, Target, Sephora	Google Assistant
Brooks Brothers	Amazon Alexa





Bradesco Bank transformed its customer care centre through Watson Assistant



Bradesco Bank, a leading bank in Brazil, having 5,200 branches, was facing delays in providing response to its customers queries through its call centres, thus resulting in dissatisfaction among its consumers





- Bradesco began to look for a way to increase the speed of service and also improve the level of personalization for each client. Towards this objective, it turned to IBM Watson Assistant
- Watson Assistant helped in significantly reducing the response time in addressing the customer queries

The key features of Watson Assistant are as follows:

- O It was trained in Portuguese and in banking by a dedicated team with 10,000 customer questions
- O It was tested in a few branches of the bank until the it satisfied customer responses
- It was made available to the employees across all 5,200 branches

Katia Vaskys,Managing Director
at IBM

"Watson is trained on 62 products and answers 283,000 questions a month with a 95% accuracy rate"

Brands connecting customers through digital & voice experience



Home services

vivint.SmartHome

- Vivint Smart Home, a smart home services provider, is all-in with voice, claiming one of the earliest Amazon Echo skills in its category
- With Invoca's software, the company also leverages voice data from phone calls to make its online landing pages more targeted, recently seeing a 70% jump in phone calls born from digital ads and a 76% increase in new customers



Financial services

Bank of America 💜

- Bank of America launched a voice assistant called Erica for its mobile app, which complete transactions; its machinelearning-based system continuously scans users' finances to optimize banking functions to their benefit







- In 2016, Aloft debuted Project Jetson Suites, a voice-based that lets guests control the room by asking Siri to do things such as control the lights, adjust the thermostat, or set an alarm
- Other hospitality chains are almost certain to follow the same trend

Future of enterprise voice assistant

Voice Assistant: Potential to become a major breakthrough in enterprise computing

Enterprise Voice assistant is in a nascent phase and advancing with innovations and improvements. It has the capability to become one of the largest enterprise technological disruption

Future scope of enterprise voice assistant



Vendor perspective

- More personalized responses with contextual understanding
- Focus on improving voice based natural language processing (NLP)
- Emphasis on addressing concerns of data security



Industry perspective

- Automotive, Retail, Hospitality and Banking industry are early adopters followed by others
- In-car speech recognition system will become a standard feature in future cars
- Retailers look to sell their product through voice assistants
- Voice assistant paving its way in hospitality and banking sectors

Gartner

"By 2020, 30% of interactions with technology will be through conversations (voice) with smart machines."

Vendors will invest in advanced technologies to make their products more intelligent

Vendors are aiming to make their voice assistant more intelligent and are thus expected to invest heavily for improvement in the areas of NLP, contextual understanding and data security



More personalized responses with contextual understanding

- Contextual understanding is the next step for voice, for it to become an integral part of enterprises
- Google Assistant is ahead of its competitors, whereas most of enterprise voice assistants lack contextual knowledge
- Thus, firms in enterprise voice assistant market will invest heavily in this area for more personalized responses with contextual understanding





Focus on improving voice based natural language processing

- Huge investments are being made by the firms in the enterprise voice assistant market to improve the processing of human requests
- The aim is to make the voice assistant more conversational which can act as an another human counterpart and can minimize the error to misinterpret human requests



Emphasis on addressing the concern for data security

- The growing proliferation of enterprise voice assistant technologies can put security of consumers and employees data at risk
- On The enterprises are concerned with voice authentication and the ability of firms to keep their data safe
- Thus, the firms in enterprise voice assistant market will place greater effort in addressing data security concerns

Adoption of voice assistant is expected to transform industries

Automotive, Retailers, Hospitality and Banking sectors are the early adopters, followed by other sectors



In-car speech recognition: To become a standard feature in future cars

- All future cars are expected to have in-car speech recognition capability
- Benefits of the in-car speech recognition capability are listed below:-
 - Start car remotely
 - Lock or unlock the doors
 - Activate climate control
 - To check the vehicle running condition such as tire pressure, battery, fuel, etc.
 - For navigation



Retailers will imbibe voice assistant in future

- Voice assistant makes shopping experience more engaging and it has the potential to make real-time personalized recommendations
- Few instances where retailers are integrating voice assistants are:-
 - O LG featured a smart refrigerator using Alexa that allows ordering of food items
 - O Ford and Volkswagen are integrating Alexa into their cars to enable voice shopping





Voice assistant will pave its way in hospitality and banking sectors

Banks

- Voice assistants in banking will enable checking account balances, getting account related information
- Ocapital One was first bank to launch Alexa. Other banks to follow the same trend

Hospitality

Voice assistant at hotels will allow guests to order room service, and control in-room smart devices

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