boost·ai

Unlocking the Future of Conversational AI in 2023:

5 essential trends

INTRODUCTION

Our increasingly digital world requires evermore digital solutions to help streamline customer service, sales and support.

As consumers, workers and businesses have moved online, they are now embracing the opportunity to automate with digitally-native alternatives such as voice and online chat.

This is due, in large part, to the necessity for businesses to scale more easily as consumer demand grows and interaction becomes more online than in person. Digitally automated systems provide a clear path to scaling support and service functions, with today's conversational AI-powered virtual agents being a far cry from the rudimentary Gen 1 chatbots of even a decade ago.

These intelligent machines have evolved into powerful tools that, thanks to advances in Natural Language Understanding (NLU) and Machine Learning, help businesses across all industries deliver an unprecedented level of customer experience.

INTRODUCTION

The COVID effect:

The adoption of conversational AI has been significantly accelerated by the recent pandemic. A study by **PwC** found that 52% of companies stepped up their adoption of artificial intelligence in 2020 as a direct result of Covid. This mirrors a shift in spending habits where **59% of consumers** say that, in a post-Covid world, they care more than ever about customer experience and what brands they support and spend their money with. Rather than go into a branch or store, consumers will interact with brands online, insisting that the experience is improved to facilitate this preference.

Online chat and direct messaging have also been steadily gaining ground as leading methods of customer contact, particularly amongst Millennials and Gen Z.

Interest in these channels amongst US consumers **increased to 62%** in 2019. Conversational AI provides a unique advantage to companies looking to support these customers in the digital space in a way that is efficient and effective.

In this guide, we will look at 5 key trends that will shape the future of conversational AI, virtual agents and chatbots. We examine their market impact and potential to forge a new way forward for automated customer experience into 2023 and beyond.

Conversational AI market growth

By 2030, the global conversational AI market is expected to reach $41.39 billion at a compound annual growth (CAGR) of 23.6% between 2022 to 2030.

Primarily driven by the rising adoption of advanced AI technologies and increased consumer engagement via various platforms, it is a clear signal that both businesses and their customers view the technology as a viable channel moving forward. In particular, business benefits are a major drive: AI is now delivering on strategies to cust costs, increase revenues and improve customer satisfaction.

Gartner predicts that chatbots and virtual customer assistants (VCAs) will become a primary customer service channel by 2027. In a survey conducted by the analyst firm in 2022, 54% of respondents revealed that they are using some for of conversational AI for customer-facing applications.

Similarly, enterprises across the board are signaling an acknowledgement of this rise in conversational AI. According to Accenture, 56% of companies say that conversational AI is driving disruption on their industry, with a further 43% reporting that their competitors are already in the process of implementing the technology.

Conversational AI adoption across industries

Conversational AI stands to help enterprises to cut costs, increase revenues and improve customer satisfaction over the coming period.

In research published by Capgemini, it was revealed that companies across banking, insurance and retail that have adopted conversational AI report a **greater than 20% reduction** in both customer service costs and overall customer churn.

Gartner is similarly bullish, estimating that **40% of enterprise applications** will have embedded conversational AI by 2023, up from below 5% in 2021. They recommend that product leaders looking to get ahead of the curve should look to solutions that offer end-to-end automation via easy integration with enterprise back-end systems, instead of simple Q&A functionality.

This positive uptick looks to only continue across key industries as conversational AI and virtual agents become a mainstay of the wider digital service and support strategy of major enterprises

Banking

By 2023, the operational cost of savings by implementing virtual agents in banking will reach

$7.3 billion *globally*

- Juniper Research

18% *of credit unions have already deployed some form of chatbot and another 18% plan to in 2021*

- Cornerstone Advisors

Insurance

±75% *of insurance customers trust chatbots to provide a new or renewal quote, make a claim, add a member to coverage and update billing information*

- Liveperson

Insurance companies can expect conversational AI to account for cost savings of up to

$1.3 billion *by 2023*

- Juniper Research

Telecommunications

Global AI in the telecommunications market is expected to reach **$1 billion** *by 2023*

- Market Research Future

The telecommunications industry is expected to invest **$36.7 billion** *annually in artificial intelligence by 2025*

- Tractica

E-commerce

By 2023, over **70%** *of chatbots are estimated to be in retail*

- Juniper Research

47% *of online shoppers are open to making purchases using a virtual agent*

- Hubspot Research

Healthcare

The healthcare chatbot market is estimated to reach **$340 million** *by 2027*

- FutureWise

Over **1,000** *Covid-19-specific chatbots were built using Microsoft's chatbot creation program during the pandemic*

- CB Insights

The hype is over

- conversational AI is here to stay

Chatbots and virtual agents have easily been one of the most over-hyped applications of artificial intelligence of the last decade.

And not without merit; the potential of what is possible with conversational AI has, as we've already demonstrated, resulted in incredible levels of investment but, so too, has it led to many false starts.

The Gen 1 bots failed to be very smart, accurate or scalable.

That hype, however, seems to be dying down, finally paving the way for a more stable market of vendors that cut through the noise to deliver on the promise of automation to cut costs, increase revenues and improve customer satisfaction.

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In the 2021 revision of its **Hype Cycle for Artificial Intelligence** , Gartner has updated its projections for where it sees chatbots headed. While still placed squarely in the ‘Trough of Disillusionment’ - that is to say, the initial market surge has begun to subside -

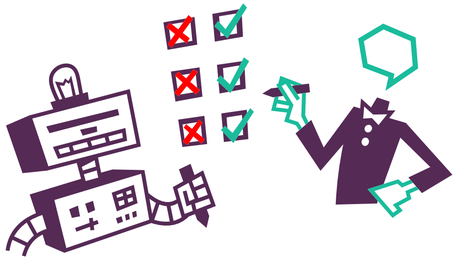
Gartner predicts that conversational AI (and its related technologies) will be ready for primetime in less than two years.

This is a significant reclassification of its projections which, in 2020, predicted that chatbots would hit the ‘Plateau of Productivity’ within two to five years.

This signals a confidence in the maturing of the market and technology, making it doubly important for companies looking to deploy a conversational AI solution to ensure that they perform the necessary due diligence when selecting the correct vendor.

Criteria to consider when selecting a conversational AI vendor:

- [ ] Does the solution scale well?
- [ ] Current number of live/deployed virtual agents
- [ ] Industry-specific domain expertise captured in pre-built content
- [ ] Self-learning functionality
- [ ] No-code software and an in-depth educational component
- [ ] Proprietary Natural Language Understanding
- [ ] Third-party recognition from trusted market analysts
- [ ] Integration support to facilitate transactions



5 conversational AI trends to watch for in 2023:

1) Scalable tech will be critical for automation at the enterprise level

#BroadScopeVirtualAgents

A common problem afflicting Gen 1 chatbot projects is the tendency to deploy a variety of specialized ‘mini-bots’ that are unable to fully meet the needs of end-users.

This can result in a bad experience as, in the case of a bank, a chatbot designed to only answer questions about credit cards is not able to help with anything else. Similarly, if that same bot is hidden away on the ‘credit card’ section of the bank’s website, it will be less effective simply because fewer people will interact with it.

This narrow scope approach to deployment is ineffective when scaling automated support and service at the levels required by large enterprises. Instead, conversational AI solutions will need to adapt to offer more broad-scope capabilities in order to provide genuine value.

Deploying virtual agents that can answer questions on a wide variety of topics, and do so with accuracy levels of 90%+, will result in a better overall customer experience.

DNB

Norway’s largest bank employs a broad-scope approach to its virtual agent, ensuring it can answer a wide variety of questions with a deep knowledge on each subject. This resulted in DNB automating over 50% of all incoming chat traffic in just 6 months since launch.

Did you know:

The virtual agent, AINO, successfully automates over 10,000 conversations every day that equate to 20% of all DNB customer service traffic.

2) Large Language Models will help build smarter chatbots, faster

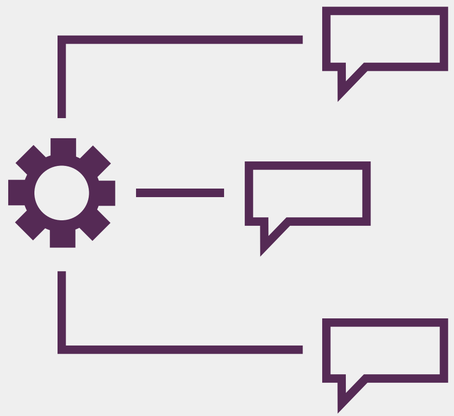
#LLMs

With conversational AI being thrust into the spotlight thanks to the increasing hype around Large Language Models (LLM), 2023 will be the year where we see this branch of artificial intelligence harnessed for use in an enterprise setting.

The challenge with LLMs is that their generative nature currently makes it difficult to quality control their output. Generative AI is very good at predicting the next word in a sentence, but there is no guarantee of accuracy which has the potential to result in chatbots providing false or incorrect information

Instead, LLMs can be fed contextual company data - i.e. from a bank's website - and then used by AI trainers to significantly reduce the time it takes to create:

- Training data
- Test data
- Content/chatbot responses



By keeping a human in the loop for this process, the resulting output can be quality controlled thus making LLMs a powerful tool in the development of even better virtual agents.

Augment workers, not replace them

Technologies like LLMs are set to transform the roles of AI trainers from content creators to content managers that leverage these powerful tools to work smarter and faster.

3) Automated chat will become the primary channel for customer service

#ChatFirst

For a business to get the highest possible value out of its chatbot, a simple equation needs to be followed:

Value per interaction X Number of interactions = Value created

Maximizing value from this equation requires that the underlying technology powering a conversational AI platform is robust enough to handle high volumes of traffic with consistently high resolution rates. Once this is in place, it means that a business can confidently place a virtual agent at the center of its customer service strategy.

This will allow for large-scale automation, reallocating phone, email and even live chat to second- and third-tier support channels that the virtual agent can transfer customers to if necessary.

Based on existing results, this ‘chat-first’ approach is already enabling businesses to play to the strengths of automation by reducing overall support costs and driving up CSAT scores.

Sparebank 1 SR-Bank

One of Norway’s leading digital-first banks placed a virtual agent at the centre of its customer service strategy. All customer service traffic via SR-Bank’s website is directed through the chatbot and today automates 42% of all B2B and B2C traffic.

Did you know:

3 out of 4 SR-Bank customers report a preference to using the virtual agent Banki over talking to a human.

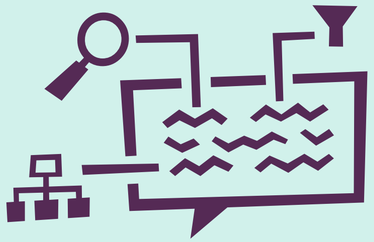
SpareBank 1 SR-BANK

4) Proprietary algorithms will replace off-the-shelf models

#NaturalLanguageUnderstanding

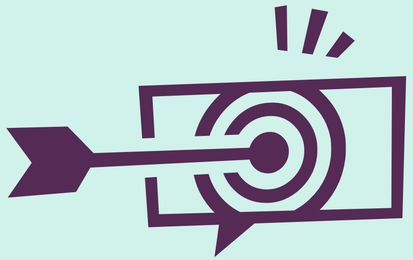
If a virtual agent can't understand, it won't be able to help. Off-the-shelf algorithms will be replaced by proprietary Natural Language technologies that will make it possible for chatbots to do more and understand better.

As conversational AI continues to become a principal customer service channel for enterprises in 2022 and beyond, expect the norm to shift. Small-scale chatbots that can only answer questions on a few hundred topics will be replaced by advanced virtual agents powered by proprietary NLU able to handle 10,000+ intents while maintaining consistent resolution rates above 90% in any language.



Identify, understand and action on multiple intents within the same request

Language understanding capabilities that will become 'table stakes' in 2022:



Minimize false-positive response

Easily parse the nuances of human language - slang, dialect and colloquialisms

5)

By 2023, 25% of employee interactions with applications will happen via voice, up from 5% in 2020

- Gartner

AI will bring automated phone support into the 21st century

#VoiceBots

The synergy between conversational AI and voice-enabled platforms is undeniable.

With the prevalence of voice assistants like Amazon's Alexa and Google Assistant, it's only a matter of time before consumers will expect to handle complex banking and insurance transactions via voice, and the technology needs to be there to support them.

Data from Salesforce found that **72% of users** placed a higher degree of trust in a business after having a positive experience with a voice assistant. In the customer service space, **voice bots** are the next generation of automated phone support that take advantage of conversational AI and combine it with speech-to-text and text-to-speech to take a company's self service rates beyond chat.

Conversational AI vendors will begin to branch out into providing voice services that leverage the Natural Language capabilities of their existing chatbot platforms. The lines between chat- and voice-based virtual agents will begin to blur as it becomes increasingly possible to automate chat and IVR from within the same interface.

What’s next for conversational AI?

Predictions 2022 - 2026

2022

Chatbots to save nearly $0.70 per customer interaction for businesses across different domains

- CNBC

2023

Conversational AI will save consumers and businesses over 2.5 billion customer service hours

- Juniper Research

2024

77% of customers say chatbots will transform their expectations of companies

- Salesforce

2025

Customer service organizations that embed AI in their multichannel customer engagement platforms will elevate operational efficiency by 25%

- Gartner

2026

The global conversational AI market to be worth $18.4 billion with a CAGR of 21.8%

- Markets and Markets

Glossary of terms

A

A-POC(Accelerated Proof-of-Concept) - 2-3 day intensive workshop held at a client's premises to determine the viability of boost.ai solution.

Algorithm - A set of operational commands or operational steps that can be used to solve a problem.

API (Application Programming Interface) - A set of tools, protocols and definitions used to build application software.

AI (Artificial Intelligence) - The development of computer systems that require human-like intelligence, including speech recognition, language translation and understanding, and decision making.

AI-assisted human chat - An application of Conversational AI where a Virtual Agent works behind-the-scenes to provide human support staff with helpful answers that can be given to customers.

ASU (Automatic Semantic Understanding) - A proprietary algorithm developed by boost.ai that is layered on top of other Deep Learning algorithms to enhance a Virtual Agent's ability to understand a customer request. ASU improves key language understanding pain points including complex sentences, multiple intents and can reduce false positives by up to 90%.

B

boost.ai - Norwegian software company founded in 2016 specializing in Conversational AI.

Bots (see Chatbot) - Abbreviation for an autonomous program on a network (especially the Internet) that can interact with computer systems or users.

C

Channel The medium for which customers connect with a business, i.e. phone, email, chat, etc. Conversational AI exists primarily on the chat channel, including platforms such as Skype, Slack, Messenger and more.

Chat log - Collected data of human-to-machine interactions.

Chatbot - An autonomous program on a network (especially the Internet) that can interact with computer systems or users. Chatbots are considered rudimentary versions of Virtual Agents due to their lack of 'true AI' and reliance on prompts and button-based systems.

Cloud - A network of connecting computers that share data and processing resources via the Internet.

Context - Relevant information that Conversational AI extracts from a user conversation and can be used to provide responses or complete tasks.

Conversational AI - The synthetic brainpower that makes machines capable of understanding, processing and responding to human language. Applying this technology in Virtual Agents helps companies with high volumes and frequency of online customer traffic improve interactions happening in their direct messaging channels.

Conversation - A logic diagram or decision tree of a scripted conversation. Can either be linear or branching, with multiple outcomes and answers.

Customer experience (CX) - A phrase used to describe the relationship a customer has with a business. Customer experience refers to the total of all experiences the customer has with the business, based on all interactions and thoughts about the business.

D

Deep learning - A subset of Machine Learning where artificial neural networks learn from large data sets in order to improve.

E

Enterprise-grade - Description of the components and capabilities of boost.ai's Conversational AI platform that are designed for large business, companies and organizations.

Entity - Fields, data or words that are designated as important for a Virtual Agent to complete a request. Examples include location, date, time, numbers, etc.

Entity extraction - The process by which Conversational AI identifies important words in a user request and matches them with relevant Intents in order to deliver a correct response.

H

Hosting - Available hosting options for boost.ai clients include on-premises and in the cloud via Amazon Web Services (AWS)

I

Intent - Important topics that define what a user wants when interacting with a Virtual Agent. Intents are often combinations of nouns and verbs: e.g. Order a credit card, Find my invoice, etc.

Interaction - Text or spoken communication between a human and a Virtual Agent.

L

Large Language Models (LLMs) - Deep learning models that enable machines to process and generate natural language. LLMs are typicallwwy trained on datasets of billions of words and use large neural networks containing hundreds of millions of parameters.

M

Machine learning (ML) - A process in which a computer learns from experience rather than programming. This is achieved by gathering data and identifying insights on its own, without the aid of a human.

Multiple intents - Complex user requests that contain more than one intent that Conversational AI must process and prioritize.

N

NLP (Natural Language Processing) - A subfield of linguistics, computer science, information engineering, and artificial intelligence concerned with the interactions between computers and human (natural) languages, in particular how to program computers to process and analyze large amounts of natural language data.

NLU (Natural Language Understanding) - The comprehension by computers of the structure and meaning of human language (e.g., English, Spanish, Japanese), allowing users to interact with the computer using natural sentences.

P

Pilot - Early development stage of a Virtual Agent where it is deployed to a controlled user group for testing.

R

Response - A Virtual Agent reply based on user input.

S

Sentiment analysis - The ability for Conversational AI to understand user mood during an interaction. This is assigned a score that can subsequently be used to trigger specific conversation flows, improve the model or seamlessly transfer to human chat agents as necessary.

Structured data - Information that is organized to a large degree and easily searchable from within a database.

Synonyms - Alternatives and variations to intents that can be added to a Virtual Agent's synonym list allowing it to understand a greater range of topics and enhancing its natural language understanding capabilities.

T

Test data - Data that has been specifically identified for use in testing Conversational AI.

Training data - An initial set of data used to help a program understand how to apply technologies like neural networks to learn and produce sophisticated results

U

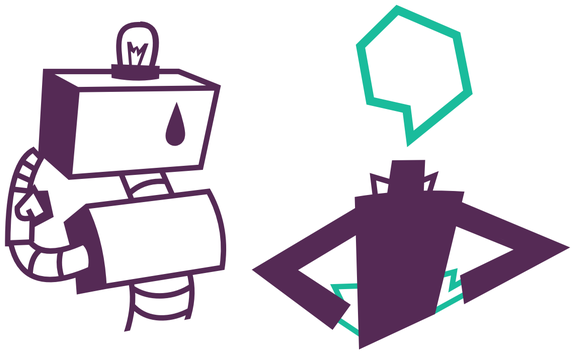
Use case - Specific ways in which a company or organization can implement a Virtual Agent to achieve its desired business goals.

Unstructured data - Information that lacks consistency and does not fit a pre-defined data model.

V

Virtual agent - An advanced Chatbot that uses Conversational AI to deliver real-time customer service. Virtual Agents use Natural Language Understanding and Deep Learning algorithms to automate customer interactions by either efficiently answering questions, performing tasks on a user's behalf or transferring to customer support when identifying a necessity to do so.

Virtual agent network (VAN) - A proprietary technology from boost.ai that combines multiple separate virtual agents in a network configuration that can be accessed via a single chat window.



Drowning in customer service inquiries?

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