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# USE OF CHATBOTS IN REAL LIFE

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# Wind of changes

- What was once a dream is now obsolete and what never was a dream is now a new standard. 😊
- This change can easily be seen on how jobs that once were considered essential and impossible to be done by anyone than humans are now done by machines.
- Most people think, only human can recognize emotions in other human's speech or actions.
- Yet nowadays AI can scan phone calls you made with your operator and tell you a lot more about the calling person, than any human ever could.
- Most people think, psychologists are always going to be the only ones being able to help troubled minds, yet there already is an app for your phone, that takes care of your mental wellbeing as well as a regular psychologist would and is always at your arm's reach.

- Are chatbots that smart indeed?
- How are they responding to the questions we are asking?
- Chatbots live online and typically evolve over time by using artificial intelligence and machine learning on chat platforms or on social media.
- Chatbots are **embedded** into chat platforms that each have their own features, such as ***Slack, Facebook Messenger or SMS***.
- For example, SMS and email bots can only view text and attach multimedia widgets. On the other hand, Facebook Messenger, Kik or Telegram Bot will communicate with users using several different graphical widgets.
- Users of these platforms can also have access to web views, which effectively enables infinite flexibility in terms of the user interface that can be provided to users.
- Chatbots are a fantastic way for companies to meet consumers where they already have messaging apps. Chatbots allow companies to deliver services in a highly customized manner, where communications, operations and human support can be integrated in one experience.

# „Historické“ chatboty



# „Real“ chatbots

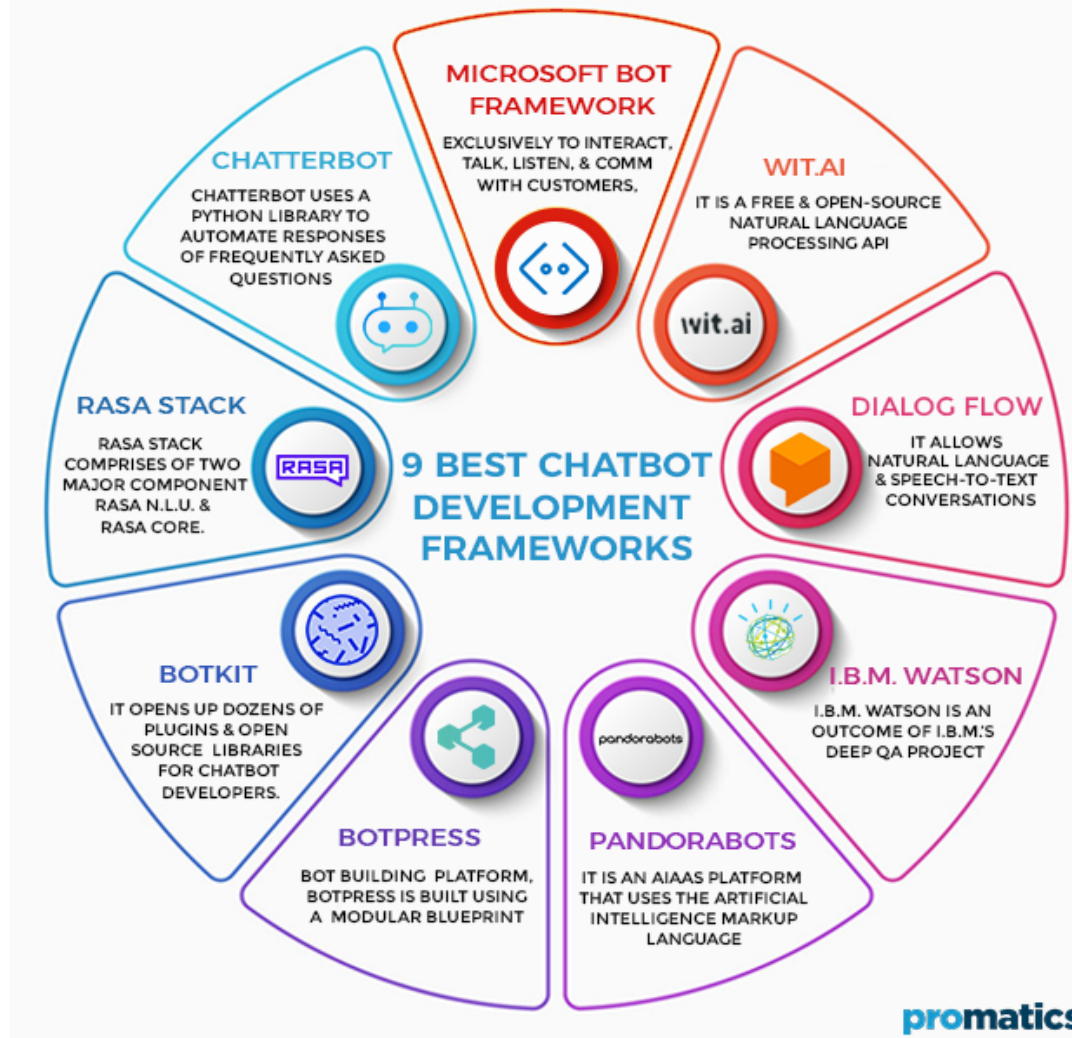
- **Siri 2010**
- Really smart personal helper, part of Apple's iOS which features a natural language UI to answer questions and perform Web service requests. Siri would pave the way for all later artificial intelligence bots and PAs.
- **Google now 2012**
- It was created by Google for the mobile app Google Search. It uses a user interface in a natural language, which allows individuals to answer questions, make decisions and act by delegating requests to a range of Google resources.

- **Eugene Goostman 2014**
- Is a chatbot that some consider to have passed the Turing measure, a test of a computer's ability to interact indistinguishably from a human being.
- Built in St Petersburg by a group of three programmers, Russian-born Vladimir Veselov, Ukrainian-born Eugene Demchenko and Russian-born Sergey Ulasen, Goostman is depicted as a 13-year-old Ukrainian child.

- **ALEXA 2015**
- Inhabiting the Amazon Echo device, Alexa is an open API voice service capable of voice interaction, using natural language processing algorithms to receive, understand and respond to voice commands.
- **Cortana 2015**
- In same year as ALEXA was created Cortana. It is a Microsoft-designed intelligent personal assistant that is included by default on all Windows 10 platforms. Using the Bing search engine, Cortana detects natural voice commands and addresses questions.

- **Bots for Facebook Messenger 2015**
- To understand questions, provide responses, and execute tasks, bots are programmed. From a client's point of view, they are a cordial and open efficient device. Your customer can just type a message, like they would to a friend, instead of opening an app, making a phone call, running a search, or loading a webpage.

# Best chatbot development frameworks



# Microsoft Bot Framework

- Designed to **interact, talk, listen, and communicate with customers**, Microsoft Bot Framework builds phenomenal frameworks. This A.I. chatbot platform comes with the ability to integrate with the most popular application offered by Microsoft suite like Cortana, office 365, and so on.
- Businesses can use Microsoft Bot framework and train chatbots using the existing conversation and azure cognitive service.
- Chatbots can understand people's communication through text, SMS, video, and speech.
- It deploys active learning and includes pre-existing, pre-build models that allow chatbots to interact with users on chat programs they're already using, such as Skype, Slack, Facebook Messenger, Cortana, Microsoft Teams, Kik, and more.
- The open-source SDK allows businesses to test chatbot products even before it is deployed into a channel.
- Powered by A.I. and machine learning, Microsoft Bot based chatbots can also reply to the most complicated questions asked by the visitors.

# Wit.ai

- Wit.ai is a **free and open-source *Natural Language Processing API*** that businesses use to create text-based and voice-based bots.
- These chatbots can be integrated on all kinds of the messaging platform.
- The framework supports almost any languages spoken all over the world.

# Dialog Flow

- Businesses can use Dialog Flow to digitize business processes.
- This framework uses Speech-to-text and natural language conversations to facilitate automated human-computer interaction.
- Dialog Flow framework leverages Google cloud architecture and AI-powered sophisticated system to convert speech into text.
- Google also used big data to understand what users are saying and respond accordingly.
- The framework comes with an Inline code editor that makes it easy for everyone to integrate multi-functional intelligent chatbots into their systems.
- Users can interact with brands through the website, on Google Assistant, Alex, Facebook Messenger, and other platforms, when the chatbot is built using Dialog Flow.

# IBM Watson

- The framework is extensively used to develop chatbots for healthcare units which can actively take patient data and identifies potential diseases using the power of natural language processing.
- Chatbots build on I.B.M. Watson framework can even help doctors prescribe proper treatments and medicines.
- It is primarily designed to work as a question-answering system with dynamic dialogue flow.

## Types of chatbots

- **Text-based chatbot**

In a text-based chatbot, a bot answers the user's questions via text interface.

- **Voice-based chatbot**

In a voice or speech-based chatbot, a bot answers the user's questions via a human voice interface.

There are mainly two approaches used to design the chatbots, described as follows:

- **Traditional chatbot**

Traditional chatbots are driven by system and automation, mainly through scripts with minimal functionality and the ability to maintain only system context.

- **Current chatbot**

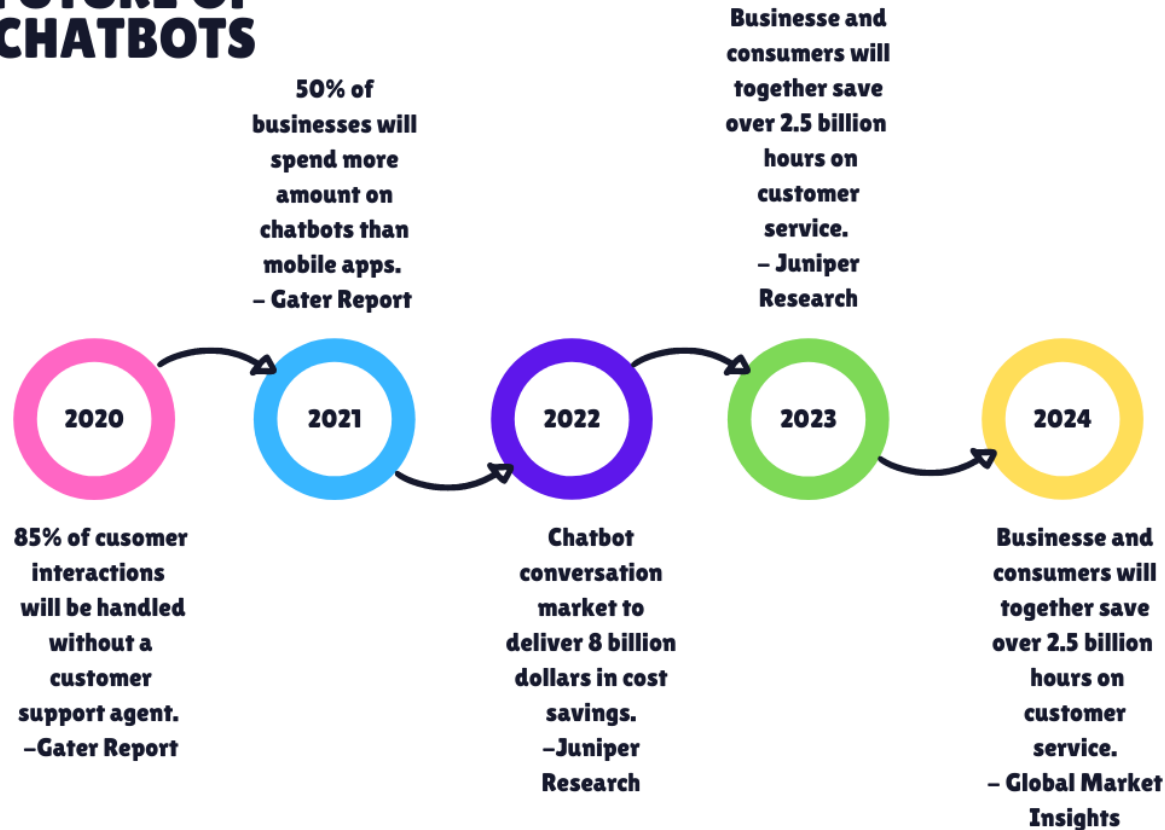
Current chatbots are driven by back-and-forth communication between the system and humans. They have the ability to maintain both system and task contexts.

- **Nextgen chatbot**

Future chatbots can communicate at multiple levels with automation at the system level. They have the ability to maintain the system, task, and people contexts. There is a possibility of introduction of master bots and eventually a bot OS.

# Are we getting into the future?

## FUTURE OF CHATBOTS



# Practical research

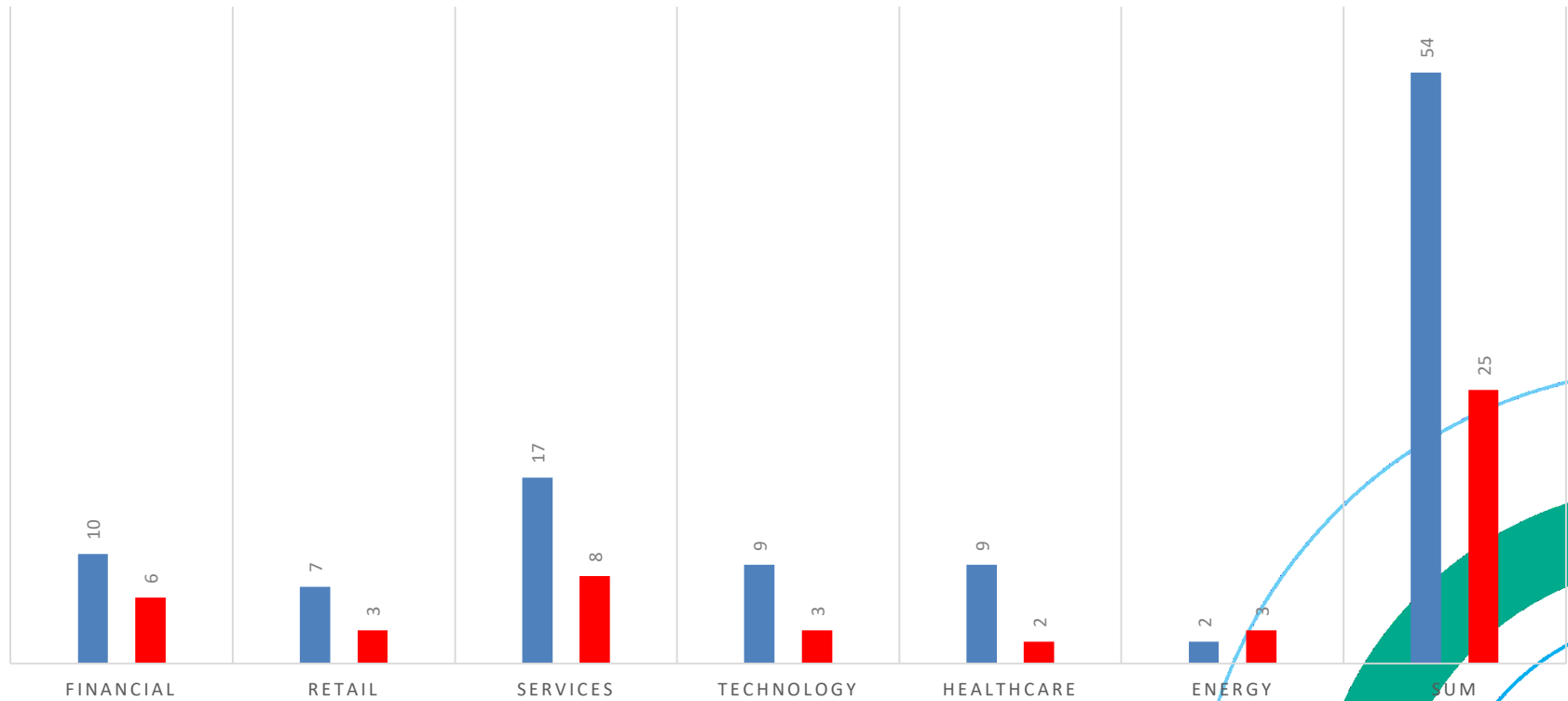
- In April 2021 we have identified six biggest industries by revenue and combined this with our ability to navigate on native market in order to compare two sets of data from domestic and foreign companies.
- We researched over one hundred domestic and one hundred foreign companies websites for the inclusion of chatbot.

# Characteristics

- Is there a chatbot on the site?
- Is it interactive (can user input questions)?
- Can chatbot do something else besides working as a connection to a support human-staff?
- If so, can chatbot help with choosing specific product based on customer needs?
- Can chatbot reply to questions not concerning company's products?
- Does chatbot offer multiple services?

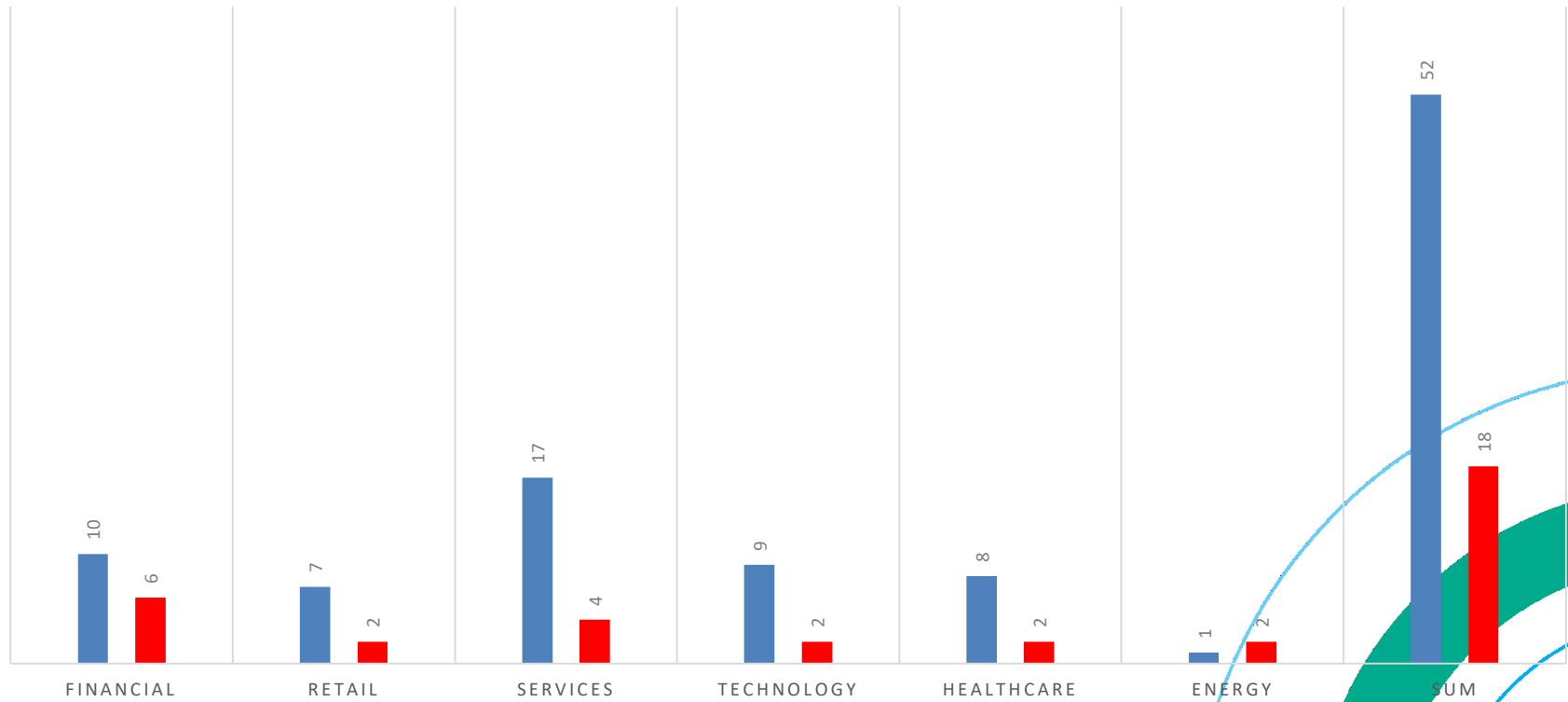
## DOES THE COMPANY USE A CHATBOT?

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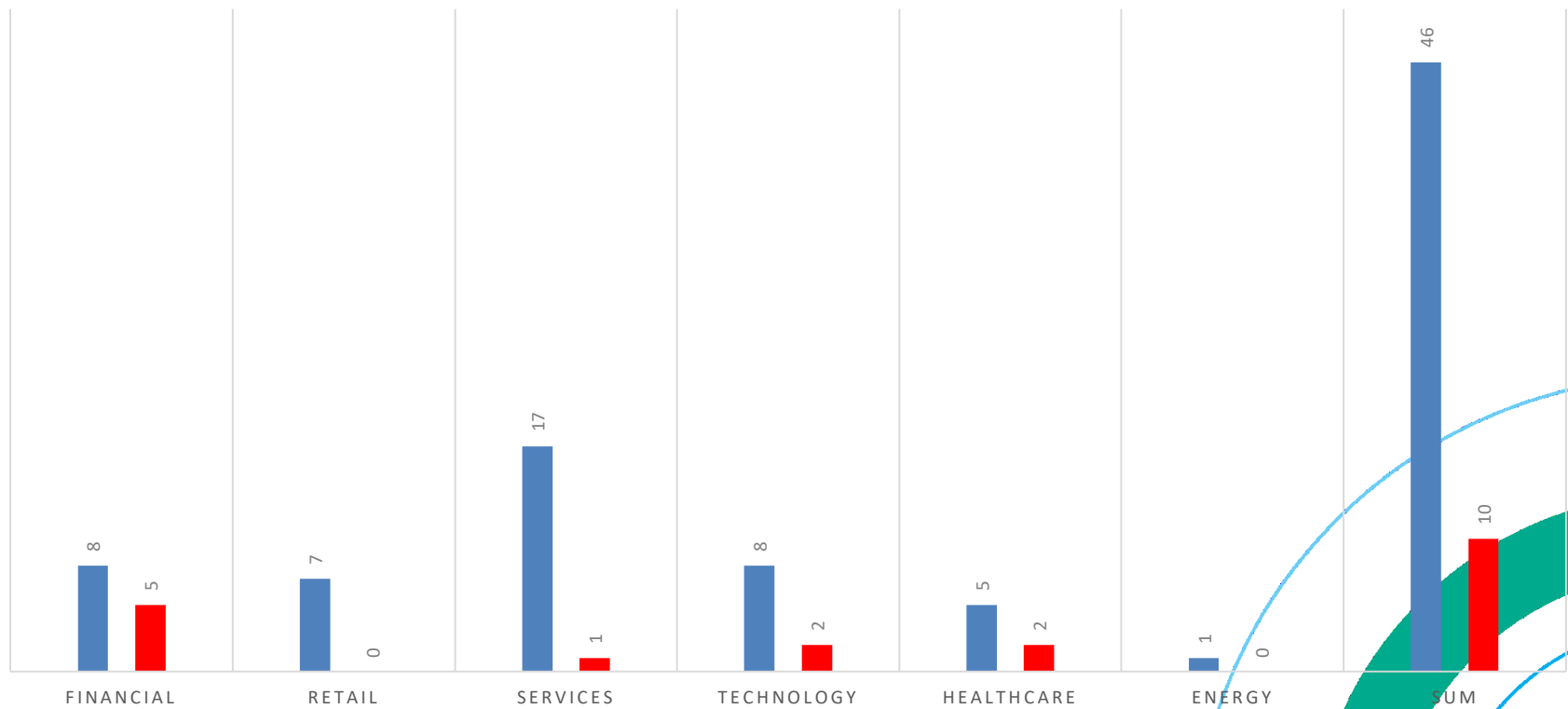
## IS IT INTERACTIVE?

■ Global ■ CZ



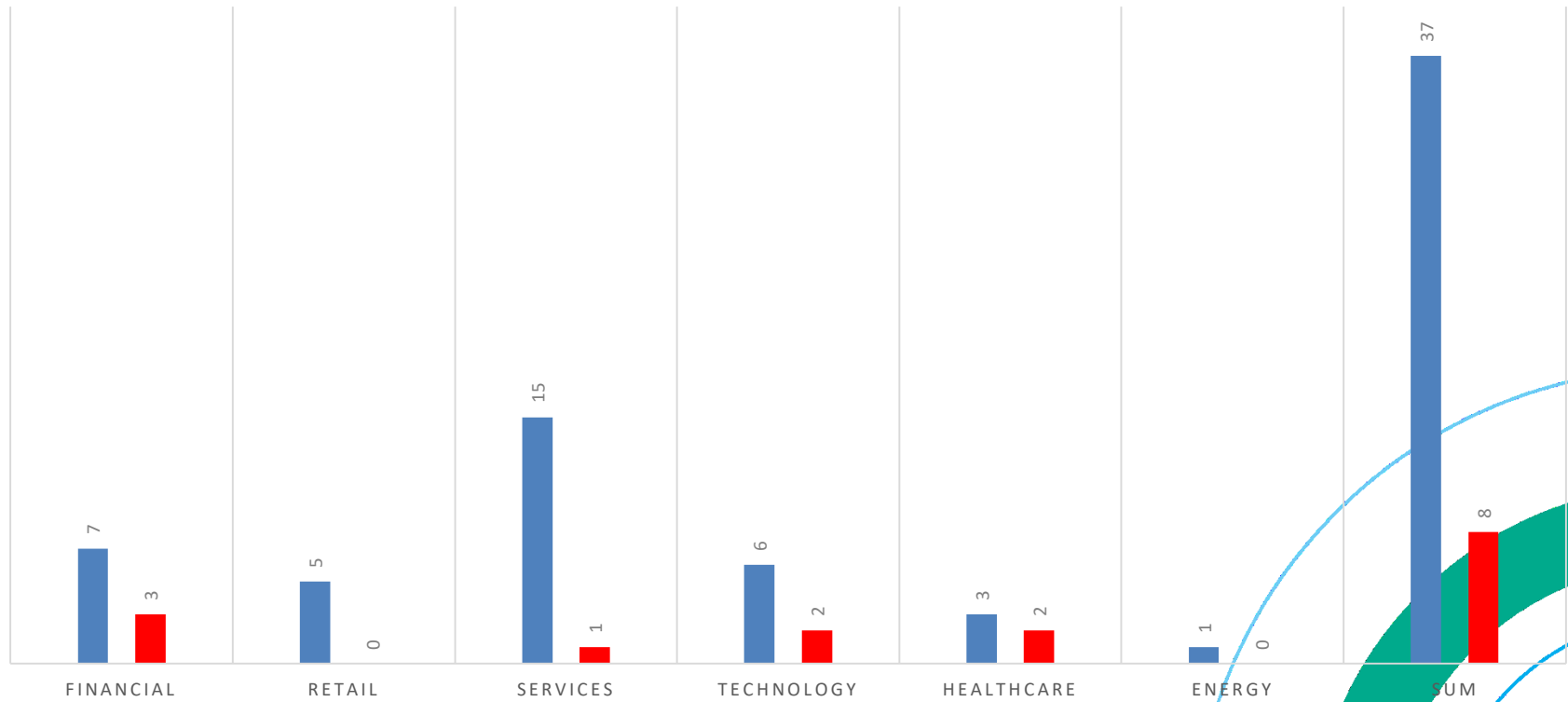
## CAN CHATBOT DO SOMETHING ELSE THAN CONTACT A SUPPORT MEMBER?

■ Global ■ CZ



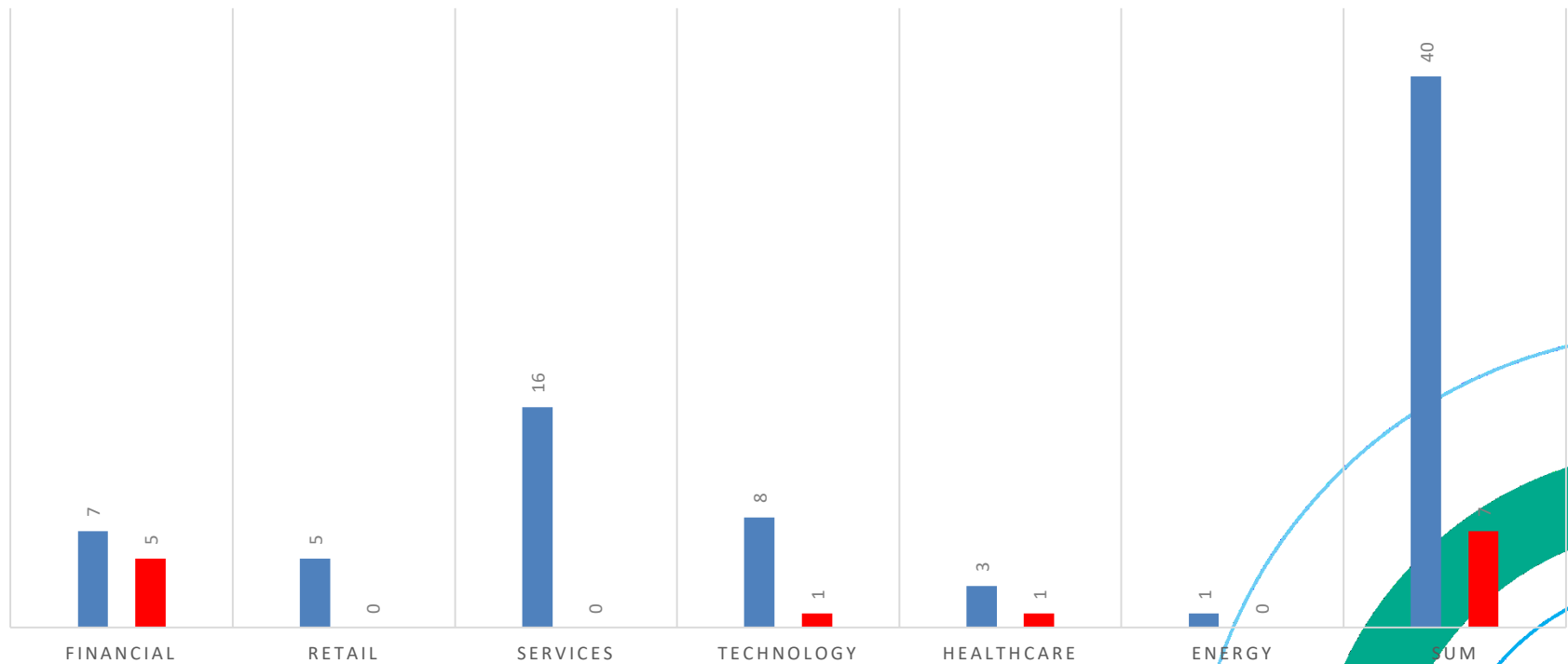
## CAN IT HELP WITH PRODUCT CHOICE?

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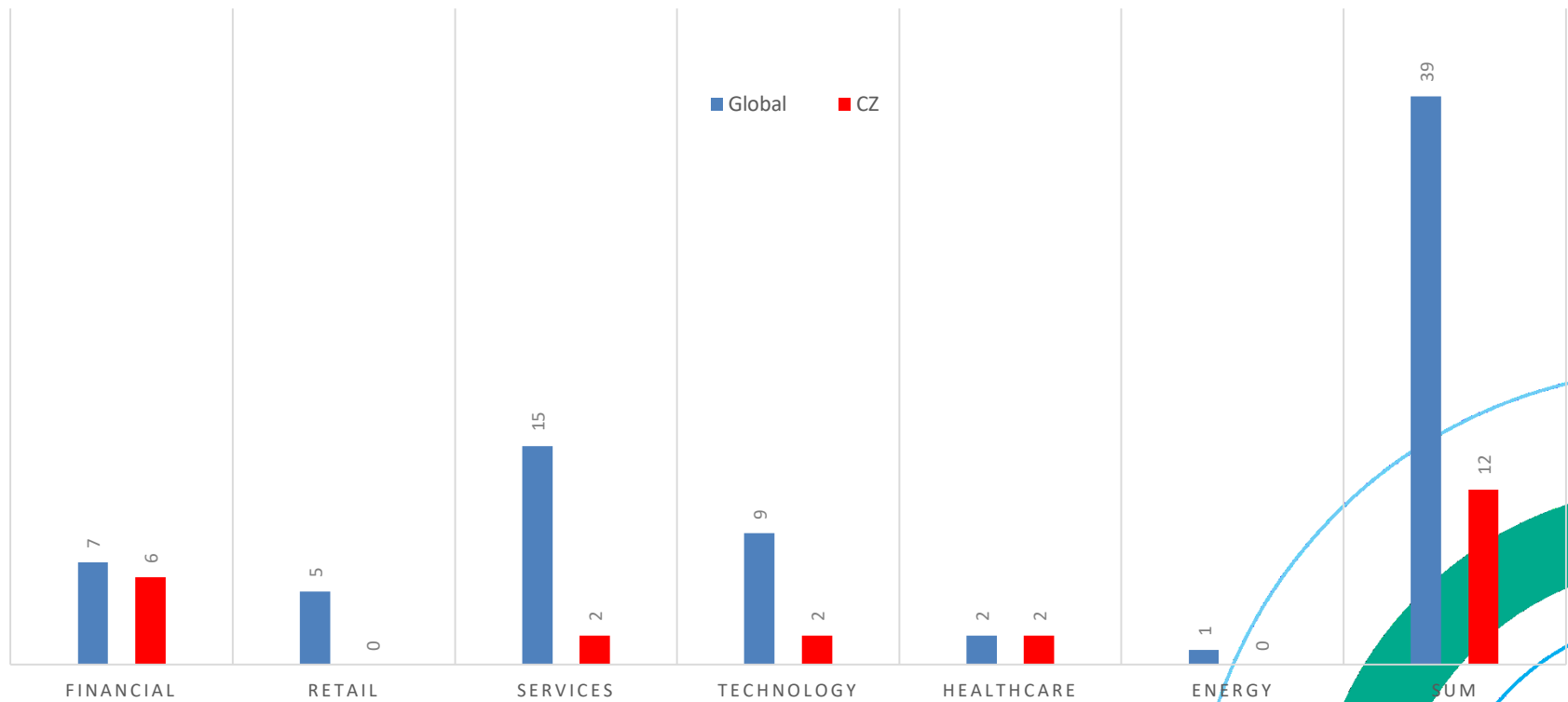


## CAN CHATBOT REPLY TO QUESTIONS NOT CONCERNING COMPANY'S PRODUCTS?

■ Global ■ CZ



## DOES CHATBOT OFFER MULTIPLE SERVICES?



- We researched 200 companies and just under 80 of them did use chatbots. This is about just over third of the companies. What is interesting is, that the difference between Czech and global industries is so big.
- A quarter of the researched Czech companies used chatbots compared to 54% in global.
- Again, we arrive at conclusion that more money means more technology percentagewise, but now it is a little closer. A quarter and a half are not too bad of results but considering situation we are experiencing nowadays we would have expected more.

# Conclusion

- Chatbots are here to stay 😞
- Change the labour market...
- Change the expectations of customers....

# Questions?