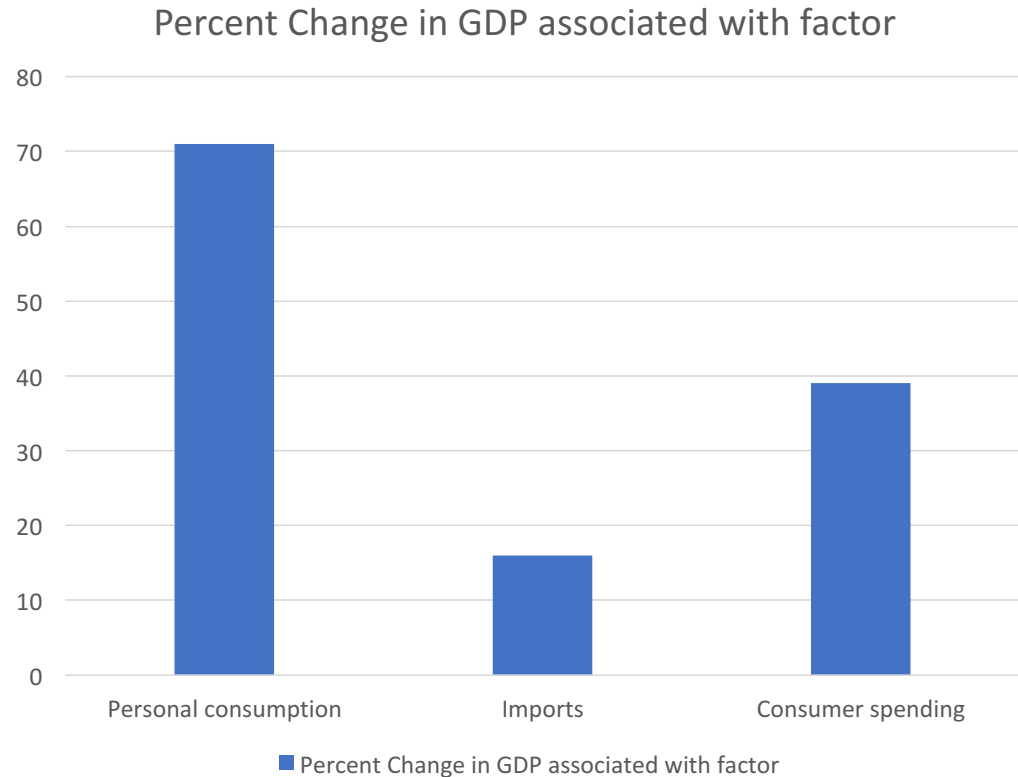


## Findings

Personal consumption, imports, and consumer spending heavily influence GDP

According to the answers of yielded by the Q&A system, these factors can highly impact the GDP of a country.

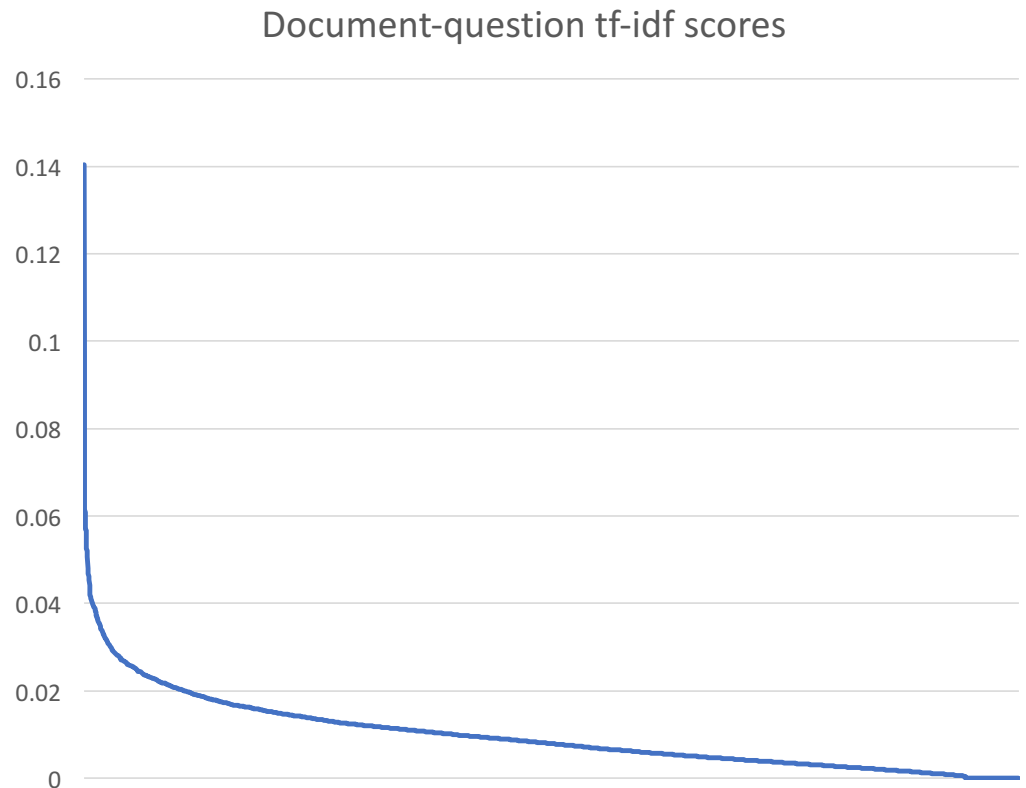


*\* Important to note that the results of the algorithm aren't 100% accurate, meaning that we would have to double check on this information.*

## Findings

Tf-idf scores help select few relevant documents

Relevance of documents to questions seems to follow power law. Tf-idf scores helped selecting only most relevant ones to be analyzed (the 20 most relevant to each of the questions, in this case).

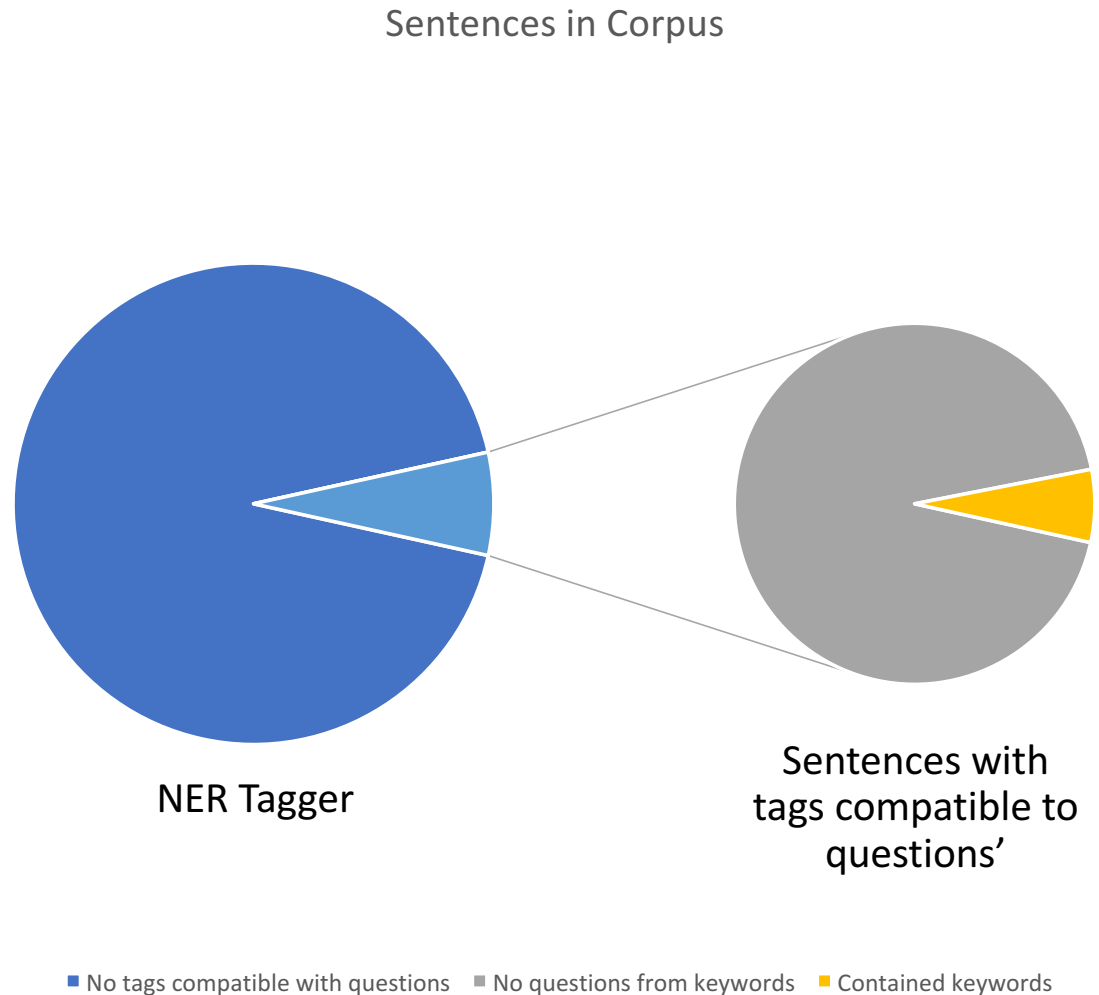


## Findings

Using NER tagger to find relevant sentences decreases search space by 92.6%

Number of sentences to be searched dropped from 882,980 (total amount) to 65,421 after only sentences with the same NER tags as the keywords in the questions were kept.

Out of the 65,421 remaining ones, only 4,265 contained a keyword in one of the questions.

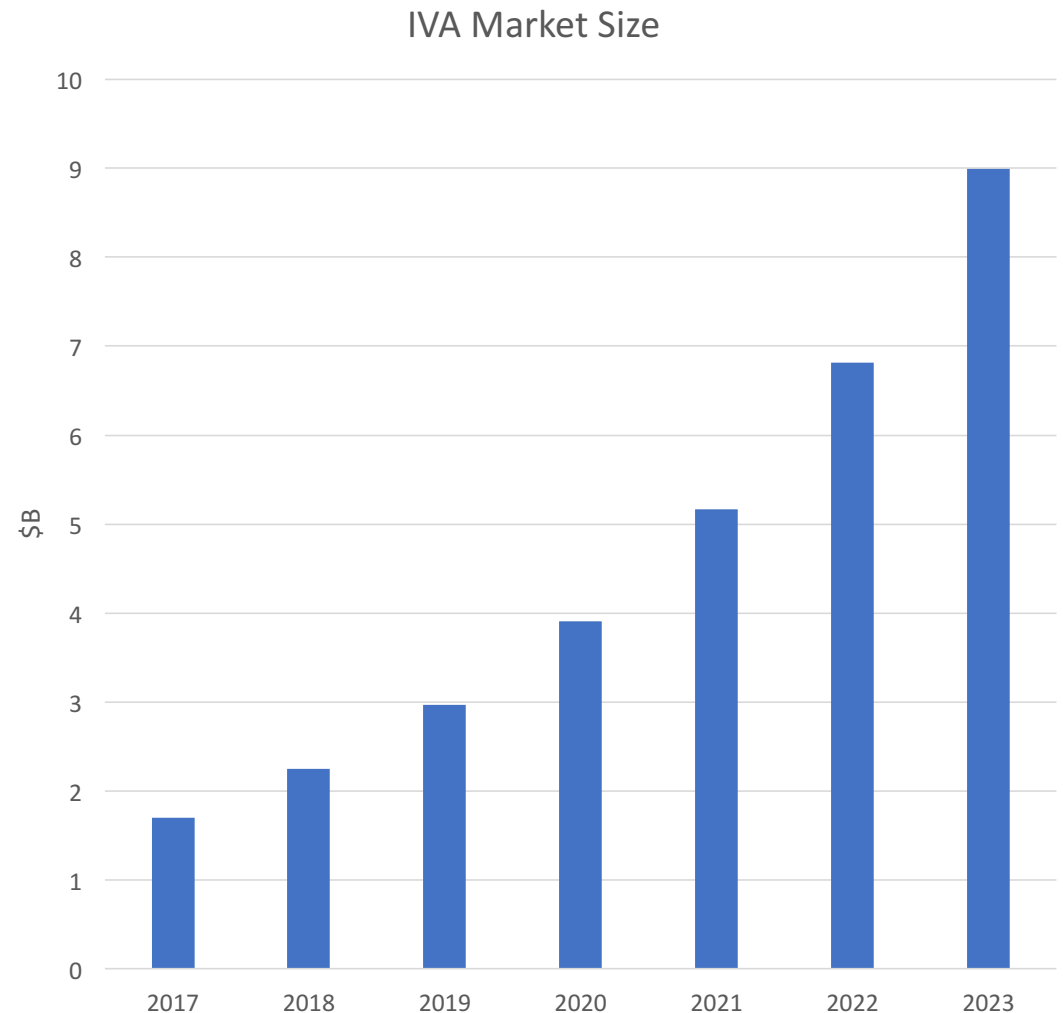


# Macro Business Value

Market for Intelligent Virtual Assistances (e.g. Siri and Alexa) is predicted to keep growing exponentially, at a CAGR of 32% until 2023, resulting in an aggregate growth of 429% between 2017 and 2023.

Huge potential for Q&A and NLP algorithms embedded in them.

<https://www.businesswire.com/news/home/20180723005506/en/Global-Intelligent-Virtual-Assistant-Market-2018-2023-Market>



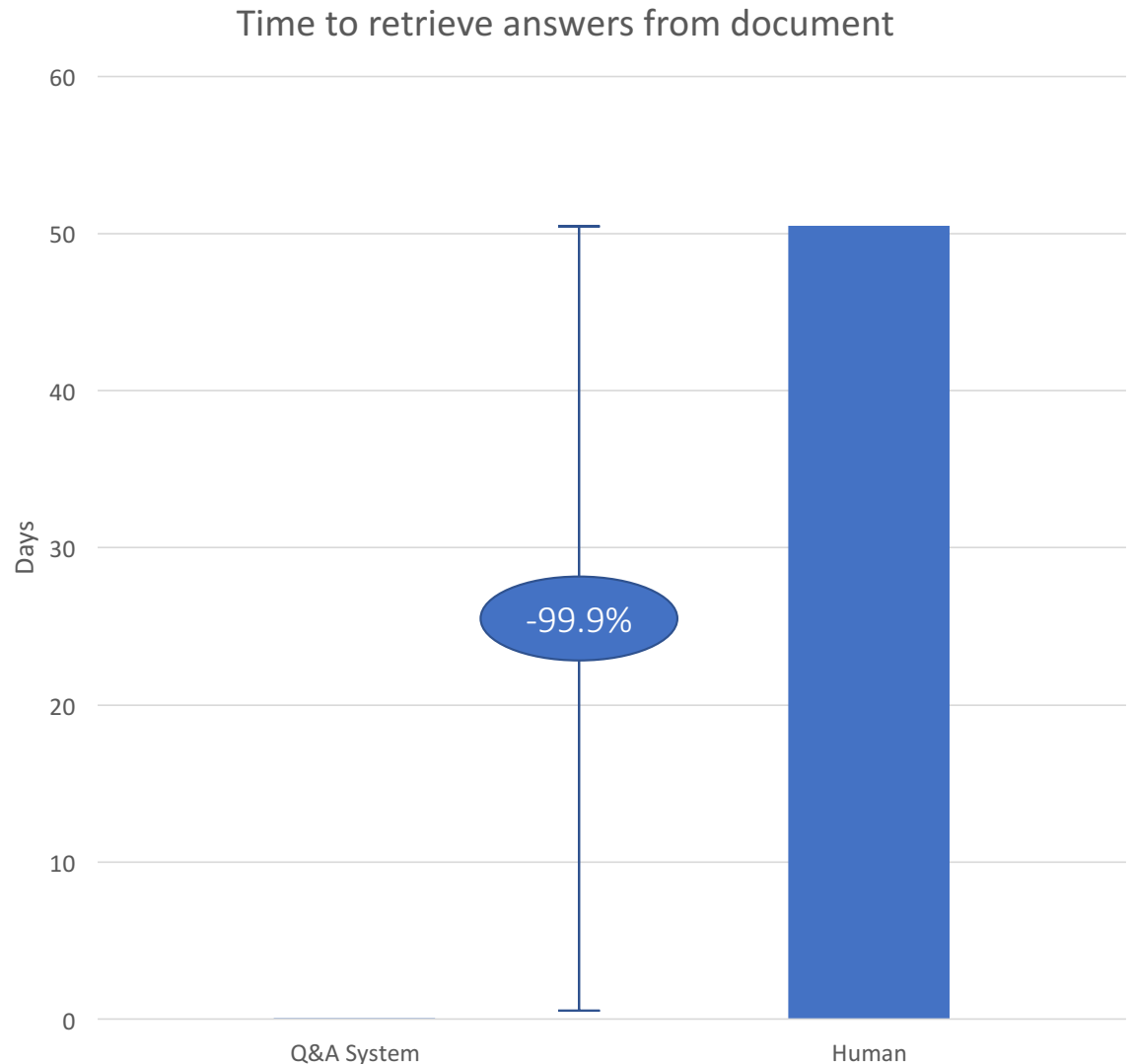
# Micro Business Value

Q&A System can greatly reduce time for information retrieval

Algorithm takes about 1h32min to run and be trained for the questions specified.

Searching the corpus (730 documents, 16.2M words) would take an average reader between 45 and 56 of non-stop reading\*).

\* <http://www.execuread.com/facts/>



## Micro Business Value

The monetary value of such algorithm would come from the labor costs saved

An average Research Analyst earns about \$50,000 to work around 2,000h a year. \*

The algorithm would reduce the time needed to retrieve answers by 99.9%, which would represent savings of **\$49,950** for every employee after they are trained on how to use it.

\*[https://www.glassdoor.com/Salaries/chicago-research-analyst-salary-SRCH\\_IL.0,7\\_IM167\\_KO8,24.htm](https://www.glassdoor.com/Salaries/chicago-research-analyst-salary-SRCH_IL.0,7_IM167_KO8,24.htm)