



5-Minute Guide

AI-POWERED SEARCH FOR CUSTOMER SUPPORT

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5-Minute Guide to

AI-Powered Search for Customer Support

AI-powered search, also known as “cognitive search” by Forrester Research is defined as, “The new generation of enterprise search solutions that employ AI technologies such as natural language processing and machine learning to ingest, understand, organize, and query digital content from multiple data sources.”²

AI-powered search, also known as “cognitive search” by Forrester Research, has its roots in enterprise search, which goes back to at least the 1960s. Since then, enterprise search improved but only gradually and incrementally. However, once Google entered the search arena, things really got interesting. Google and other search vendors started to employ technologies from the field of AI — machine learning, text analytics, and natural language processing. Search became easier to use, faster, and the results more relevant.

Scientists and academics are still trying to agree on a definition for cognitive computing,¹ but, from the commercial perspective, there’s general agreement on the basics of AI-powered search. Forrester defines cognitive search as, “The new generation of enterprise search solutions that employ AI technologies such as natural language processing and machine learning to ingest, understand, organize, and query digital content from multiple data sources.”²

Across verticals and job functions, AI-powered search delivers the power and intelligence behind thousands of applications that boost employee productivity, improve customer engagement, accelerate R&D, and support data analytics that streamline operations and business processes.

The Basics of an AI-Powered Search Platform

Before we jump into how AI-powered search would work in a customer support solution, let’s take a brief look at the core capabilities of an AI-powered search platform. An AI-powered search platform should combine self-learning technologies such as natural language processing, machine learning, and knowledge graphing to deliver a contextualized search and discovery experience without compromising security.

¹ https://en.wikipedia.org/wiki/Cognitive_computing

² The Forrester Wave™: Cognitive Search and Knowledge Discovery Solutions, Q2 2017

AI-Powered Search Platforms

- Ingest, index, and analyze virtually any data type.
- Integrate behavioral data to personalize the user experience.
- Scale to accommodate massive data volumes.
- Provide robust security that's transparent to the user.

To accomplish that, AI-powered search platforms should:

- **Ingest, index, and analyze virtually any data type.** That means having native connectors to scores of structured and unstructured data types residing in traditional relational databases and modern data frameworks such as Hadoop, NoSQL databases such as MongoDB and MarkLogic, columnar databases such as Apache Parquet, and data serialization engines like Apache AVRO. The platform should also include an SDK that allows developers to build connectors to new or proprietary data types.
- **Integrate behavioral data to personalize the user experience.** Part of what makes AI-powered search cognitive is its ability to learn from user behavior. Think of the Netflix recommendation engine that tailors recommendations based on what a subscriber has watched in the past.
- **Scale to accommodate massive data volumes.** From terabytes to petabytes and beyond, organizations are amassing and keeping more data than ever. Partly, it's simple economics. The cost per gigabyte of hard drive storage has declined steadily over the last 30-plus years. It's now around two cents.³ And many companies are turning to the cloud where storage is not only cheap but also elastic. An AI-powered search platform needs to feature a highly scalable distributed architecture that can support many concurrent users accessing tons of data.
- **Provide robust security that's transparent to the user.** This can be achieved with a data-centric security model that uses rich text analytics and machine learning to understand the connections between data. This allows administrators to write policies based on detected entities, advanced Boolean queries, and machine learning-based classifiers. They can create added filters to a user query, which ensures that result sets contain only information for which that user has permission.

³ <http://www.statisticbrain.com/average-cost-of-hard-drive-storage/>

Do experts with years of deep product knowledge staff your contact center? Probably not. It's too expensive.

AI-Powered Search for Customer Support

Whether it's through a contact center or self-service web portal, the support function is often where customers engage with your company. And in either context, giving answers quickly increases satisfaction and reduces churn. With AI-powered search at the core of your customer support systems, you can make the support experience much better for customers and easier for support staff.

The Intelligent Contact Center

Do experts with years of deep product knowledge staff your contact center? Probably not. It's too expensive. In fact, you couldn't pay enough to attract that type of employee to sit in your contact center and answer the phone.

In most contact centers, a customer problem or complaint doesn't reach that level of expertise until it's been escalated three or four times. That may take multiple phone calls and long waits on hold. By then, your customer is likely so irritated that she'll take the first attractive offer from a competitor — even if you eventually solved her problem.

With AI-powered search boosting the IQ of your contact center, you can make all your customer information and relevant product knowledge easily accessible to your front-line support representatives. That means they can answer more questions and solve difficult issues faster.

AI-powered search for the contact center:

- Creates a comprehensive view of all customer interactions with your company,
- Accelerates time to resolution,
- Uses context to give recommendations to agents,
- Improves the quality of customer interactions.

Often, customer service portals are where customers go to find information that's not there.

Yet, three out of four consumers prefer to solve their own customer service issues. They'd rather 'clean a toilet' than speak with customer service.

Putting the Service in Customer Service

Many self-service portals are really customer self-sacrifice portals. They're where customers go to get lost, looking for information that's not there and asking questions that are never satisfactorily answered.

And that's too bad because many people would much rather solve support issues on their own. Consider this round up of statistics gathered by digital marketing company Veriday: ⁴

- Three out of four consumers prefer to solve their customer service issue on their own.
- Seventy-three percent of consumers want the ability to solve product or service issues on their own; one-third say they'd rather 'clean a toilet' than speak with customer service.
- Ninety-one percent of Zendesk survey respondents said they would use an online knowledge base if it were available and tailored to their needs.

With AI-powered search as the foundation of your self-service systems, customers can find the answers they need quickly and easily. AI-powered search can make self-service support better for customers and reduce the overall cost of support by:

- Delivering relevant answers in context, not just a list of results,
- Increasing case deflection as customers solve many routine problems,
- Minimizing the number of help desk calls.

Preventing the Preventable

The concept of preventive maintenance isn't new. But AI-powered search can make preventive maintenance systems much more predictive. They not only access multiple information sources, they recognize connections between data points that otherwise remain hidden.

⁴ <https://www.veriday.com/future-customer-service-online-self-service-portals-part-1/>

In preventive maintenance, AI-powered search helps separate the signal from noise. It can help diagnose potential problems sooner.

Whether you're working with jet engines, oil and gas wells, or heavy machinery, AI-powered search can find trends and patterns that suggest looming equipment failure before it happens. AI-powered search improves the effectiveness of preventive maintenance systems through:

- Separating signal from noise with a context-rich view of structured data and text-based information,
- Diagnosing potential problems sooner, increasing the time to act,
- Learning from previous queries and incidents in a continuous feedback loop.

AI-Powered Search at the Core of Customer Support

Information is the most important asset in your customer support system. The faster you deliver answers, the higher your customer satisfaction levels.

Attivio's AI-powered search solution delivers insight and innovation to market leaders, with a platform that scales efficiently and operates effectively. Leading, independent analysts rank Attivio as a leading provider in search, knowledge discovery, and text analytics.

Attivio exhaustively catalogs every relevant source of information, enriches every cataloged object, and offers an agile, extensible platform for building smarter search-based applications.

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Attivio is the leading AI-powered search & insight platform company. Our mission is to put search at the core of every enterprise. By easily integrating every data source into one always-learning platform, Attivio enables Fortune 500 enterprises to answer the most complex questions, by providing immediate insight across all of their information. Our solutions power innovation, drive operational efficiencies, and transform business outcomes at scale, and feature industry-leading capabilities including natural language processing, machine learning, analytics, and knowledge graphing.

For more information, [please visit www.attivio.com](http://www.attivio.com).