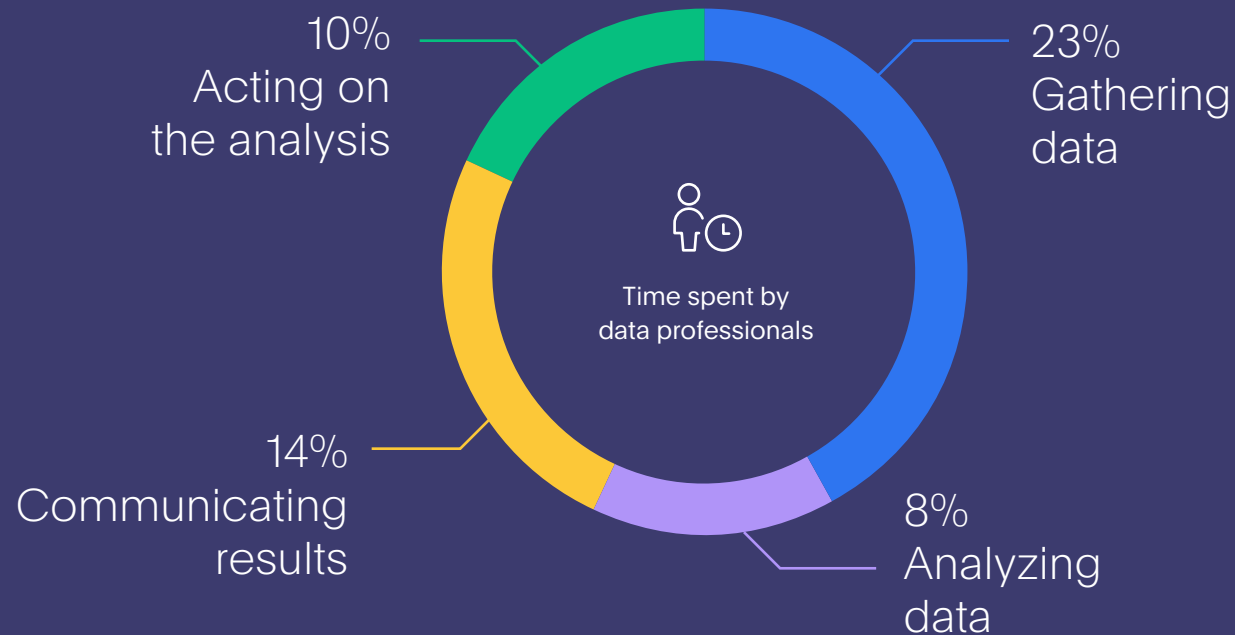




Power to the People

Finding Insights at the Speed of Search





No longer do people wait to attend a class on how to lay tile before they start renovating their bathroom. Instead, they search for "how to" videos on YouTube and start learning on their time. We are constantly searching, looking at Yelp reviews to decide on a dinner location rather than asking the concierge at the hotel, checking LinkedIn to see who we may know at the company we have an interview with rather than sending a mass email to our address book asking if anyone is employed there. Search removes the "human middleware" or the person that holds the answers you are looking for. This does not mean we don't need those people, we're just able to access their knowledge without engaging them directly.

Today, most agencies have a data team but that team is frequently bogged down in the mundane work of pulling together basic information to answer the never-ending number of questions that come in from business and functional users.

In fact, a [recent report](#) found that data professionals are spending 23% of their time gathering data, which is more than they spend analyzing data (8%), communicating results (14%) or acting on the analysis (10%). What if you could extend the functionality and user comfort with search to the massive data repositories across the government? What if in doing so you could allow everyone with your Agency to become a citizen data scientists, freeing up trained resources to focus solely on complex analysis? What if as part of this search, AI technology presented users with related queries and results that invite them to dive deeper into available data?

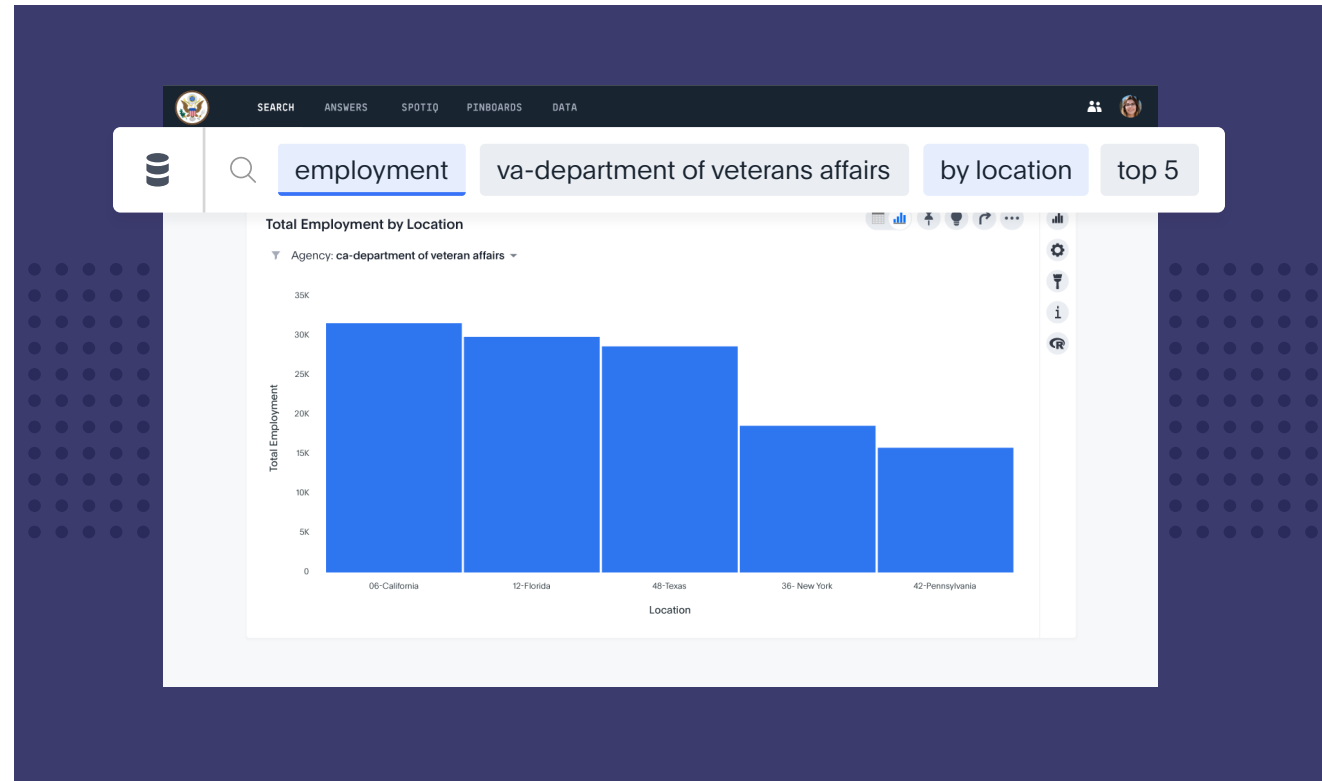
ThoughtSpot can answer these questions.

The Case for Opening Data to Search-Based Analytics

It is widely understood that data is a strategic asset. It is the currency, the oil of the future. What is not understood is how to refine it so it can be useful. With this reality, several Federal mandates have been put in place to help guide agencies in their effort to better use the data they have.

The [Federal Data Strategy](#) provides agencies [principles](#) and [practices](#) that can be used for a consistent approach to data stewardship, use, and access. This strategy is a starting point for agencies to begin developing and executing data plans for their organization. The goal of better data use is more informed decision making for agency leaders and better public access to data for private industry and citizens to innovate solutions for challenges facing our government and communities including fair housing, fraud, workforce planning, logistics, higher education access and affordability, improved citizen service, and more.

To extend this guidance, the [Foundations for Evidence-Based Policymaking Act](#) was put in place to establish processes for the federal government to instill the guidance of the Federal Data Strategy and realize a modernized approach to data management. As the name indicates, the end goal of modernizing data management is to better inform (and even later defend) policy decisions. Part of this act, the [Open, Public, Electronic and Necessary \(OPEN\) Government Data Act](#) states that federal agencies publish their information as open, machine-readable data “using standardized, non-proprietary formats.”



This enables the second part of the Federal Data Strategy to be realized, putting the power of government data in the hands of citizens so that they can create innovative solutions to community-based and nationwide challenges.

Now we have guidance on why and how to organize our data, but, what is the best way to access and use it?

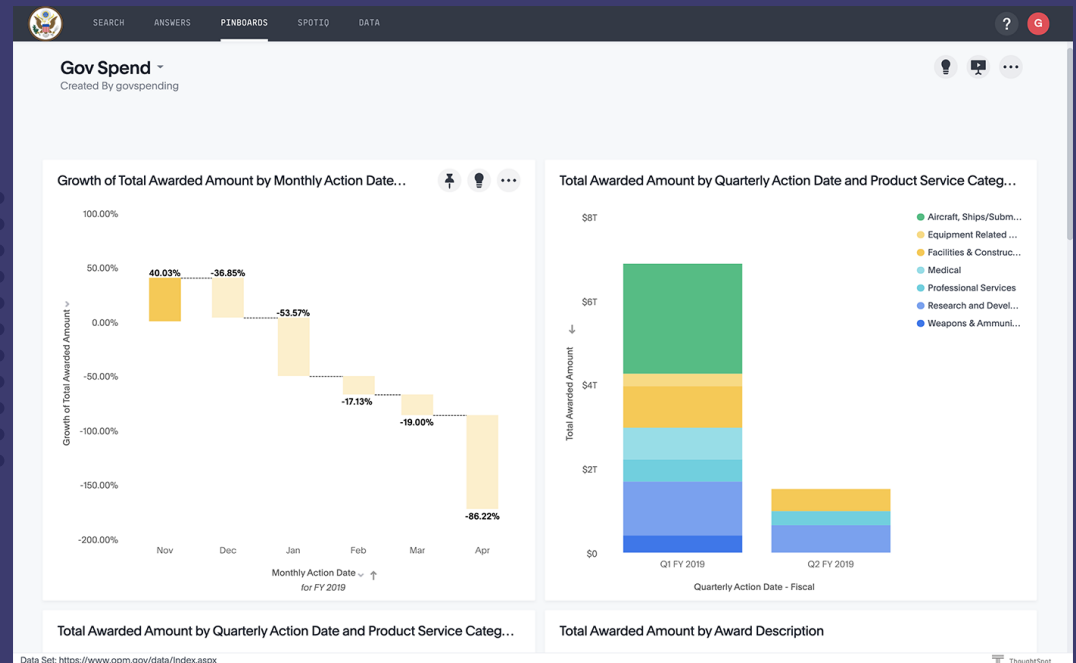
While the installation of Chief Data Officers (CDOs) and the use of data scientists can help agencies make sense of all of their data, like our democracy, the real power comes when we put it in the hands of the people. And the way people want to interact with data is through familiar interfaces that require minimal training, like the ones we have in our consumer lives.

Data-Driven Government Realized

Consumer search engines like Google have shown that much of today's population is comfortable using search to answer everyday questions. This same ease of use, and scale which we use in our consumer lives has not translated to business applications. Traditional Business Intelligence (BI) tools were built with the technical data user in mind, to deliver static reports. These reports were just a snapshot in time, and offered a very narrow look at the data based on the original data call.

The next wave of BI looked to bridge this divide, creating "self-service" desktop visualization tools for data-hungry business users. Unfortunately, these tools also created data sprawl and a governance nightmare. And despite their promise, they were still too complicated for the average business person to use without training or hours of BI support.

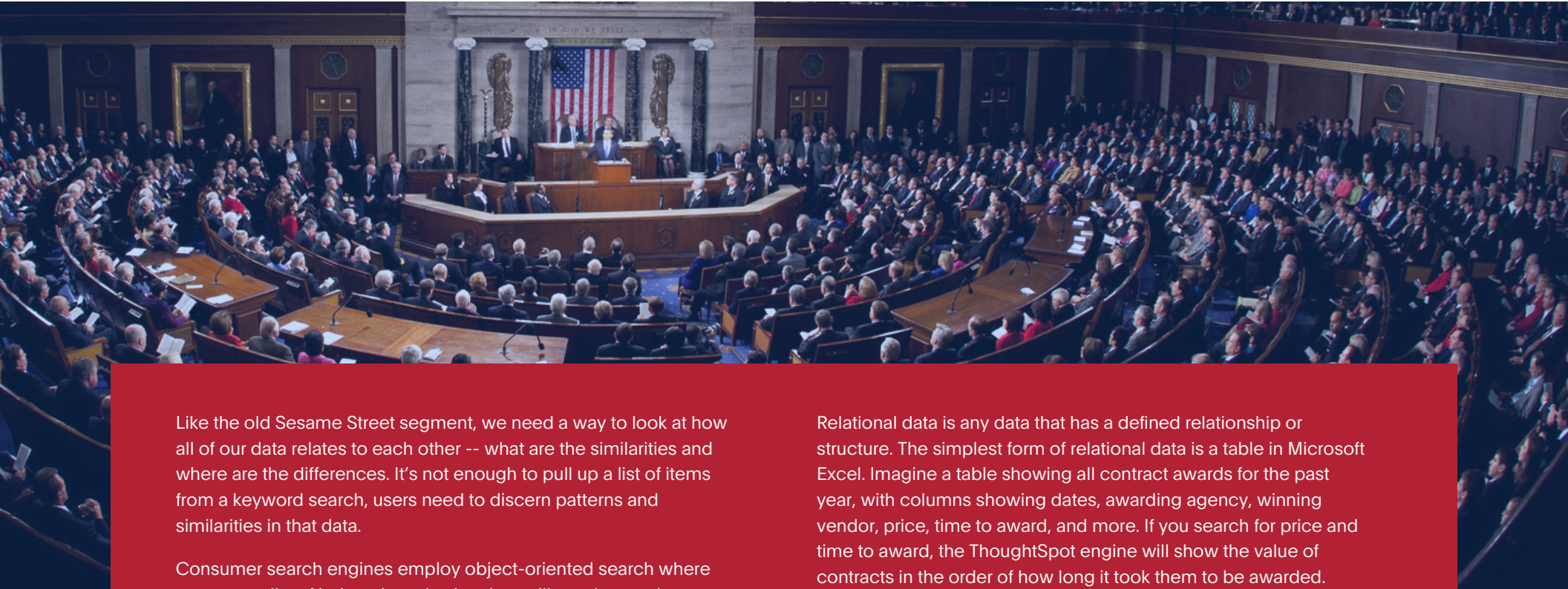
Today, ThoughtSpot is leading the third wave of BI, bringing together the needs of both business users and BI/data teams to provide true self-service analytics with enterprise-class governance and security. And this evolution means that today, ThoughtSpot can handle the scale, speed and complexity of your Agency's data landscape. This is made possible by the use of relational search.



Putting the U.S. in Customer Service

In an effort to be more responsive to citizen needs, agencies are deploying self-service for routine queries and freeing up contact center staff to answer more complex questions. But, those service agents need access to more information than ever before to meet citizen's high expectations of service. ThoughtSpot can help put the hard answers at the fingertips of contact center agents with natural language search and AI-assisted suggestions for further content.

One of These Things is not Like the Other



Like the old Sesame Street segment, we need a way to look at how all of our data relates to each other -- what are the similarities and where are the differences. It's not enough to pull up a list of items from a keyword search, users need to discern patterns and similarities in that data.

Consumer search engines employ object-oriented search where users get a list of indexed results that they still need to read, correlate, and choose the "best" resource. Additionally, these searches make assumptions that can return links that are not applicable to the question. A search engine has to decide when you ask, "how many McDonalds are there in San Francisco?" whether you mean "McDonalds" the restaurant chain, the street name, or the family name. Now imagine applying these same concepts to your data repositories. Enter the practice of relational data.

Relational data is any data that has a defined relationship or structure. The simplest form of relational data is a table in Microsoft Excel. Imagine a table showing all contract awards for the past year, with columns showing dates, awarding agency, winning vendor, price, time to award, and more. If you search for price and time to award, the ThoughtSpot engine will show the value of contracts in the order of how long it took them to be awarded. Looking at this, we could dig down into the data to see how much of an effect the size of the contract had on the time it took it to be awarded. Since data across systems is not organized like an excel spreadsheet, the power in relational search is its ability to look through all existing data quickly and drawing the correct correlations and conclusions without needing someone to organize information into columns A B and C.

Data Calls Answered

Beyond this vision of data-driven decision making, there are very tactical day-to-day challenges that a search and AI-driven analytics solution can solve. Data calls, no matter how important, take up tremendous time and resources across an Agency. From the responsible party who has to detail the need to the data analysts who has to collect and present the information. But when broken down, these data calls are nothing more than a search query.

If you give people across the organization access to the data via search, these calls can be handled quickly and efficiently without derailing days of work.

In the traditional data call workflow, information is pulled, analyzed, and then presented in a report or dashboard. By the time this is completed, there is a good chance the questions, and even the answers, have changed. Data is growing and moving every minute. The use of search eliminates the arduous task of collecting and aggregating data and instead provides the ability for a non-technical user to ask a question and dynamically get a result when the question is being asked. Reports become obsolete when decision makers can pull the information needed via search.



Just in Time Answers

A military commander is trying to understand where a specific type of equipment is deployed because there is a problem with a part. Using ThoughtSpot, a logistician can type "Equipment Name in field" and get an immediate view of the dozens of locations where the equipment is at that moment. The process for recalling those pieces can begin immediately.

Real-Time Budget Oversight

Instead of waiting until year end to spend remaining funds, agency leaders can get an immediate view of project spending by typing "current spend on Project X" into ThoughtSpot. They will immediately be able to see if the program is meeting planned budget or if it is over or under spending. Depending on the program status and results, money can be immediately reallocated to right set the reality of the work.

Uncovering Unasked Questions

The power of ThoughtSpot is not just in finding the information you know you need, but in discovering answers to questions you never thought to ask. By layering on AI, ThoughtSpot is able to find granular insights within data, pulling out the proverbial needle in the haystack. This levels the playing field where data volume is rapidly growing while the volume of insights we're able to extract from it has been limited.

The number of possible questions to ask of data is often too much for any human. Within the ThoughtSpot platform, users will get a "You might also like..." feature that shows related data points and insights based on the search you entered. This allows people to rely on machine-driven smarts to explore complex datasets with a few clicks and get insights explained to them in natural language. They don't need a trained analyst and hours of time it would otherwise take to explore the data manually and build a report. This SpotIQ functionality works by:

SpotIQ found 20 insights by analyzing 22.8M+ rows in 1.23 seconds.

Original Query: Q average **SALARY** by State

Analysis details

CLOSE

SpotIQ performed 2181 drills and discovered 300 insights.
Showing 20 out of 300 insights.

Showing 5 out of 18 insights.

# salary	# agency
FedScope March 2018	FedScope March 2018

This SpotIQ functionality works by:



Linking searches to profile and usage behavior

It knows who you are, what groups you belong to, and what you've searched on. SpotIQ works hand-in-hand with relational search along with usage-based ranking and knowledge of data characteristics to narrow down the relevant data and questions that you may be interested in to refine its analyses.



Insights at machine speed

ThoughtSpot's massively parallel in-memory calculation engine can execute thousands of queries to uncover interesting insights on billions of data combinations across multiple sources in seconds.



Sophisticated insight-detection algorithms

SpotIQ processes the results from its queries through a series of built-in insight-detection algorithms. These algorithms help uncover anomalies and outliers or identify relationships between measures that you didn't know about. They can find upward or downward trends on noisy data.



Insights sorted by relevance

As SpotIQ generates insights, they are ranked by statistical significance and personalized for each user based on their search history, user and group profiles, and data characteristics.



Natural language narratives

Along with each automatically generated insight, SpotIQ includes a smart narrative that identifies what is significant and meaningful about the data. SpotIQ automatically generates the narratives in natural language so you do not need to study the data or rely on data experts to interpret it.



Best-fit visualizations

As SpotIQ computes each insight, ThoughtSpot analyzes the characteristics of the resulting dataset, intelligently determining the best-fit visualization for the analysis, then presents an interactive chart to the end user.



Human feedback loop

You can further enhance insights with explicit feedback in the form of a thumbs-up or thumbs-down vote on any of the insights. SpotIQ uses this supervised learning approach to continuously learn and fine tune the automatically generated insights to match your preferences.

Get to the root of a slow down quicker

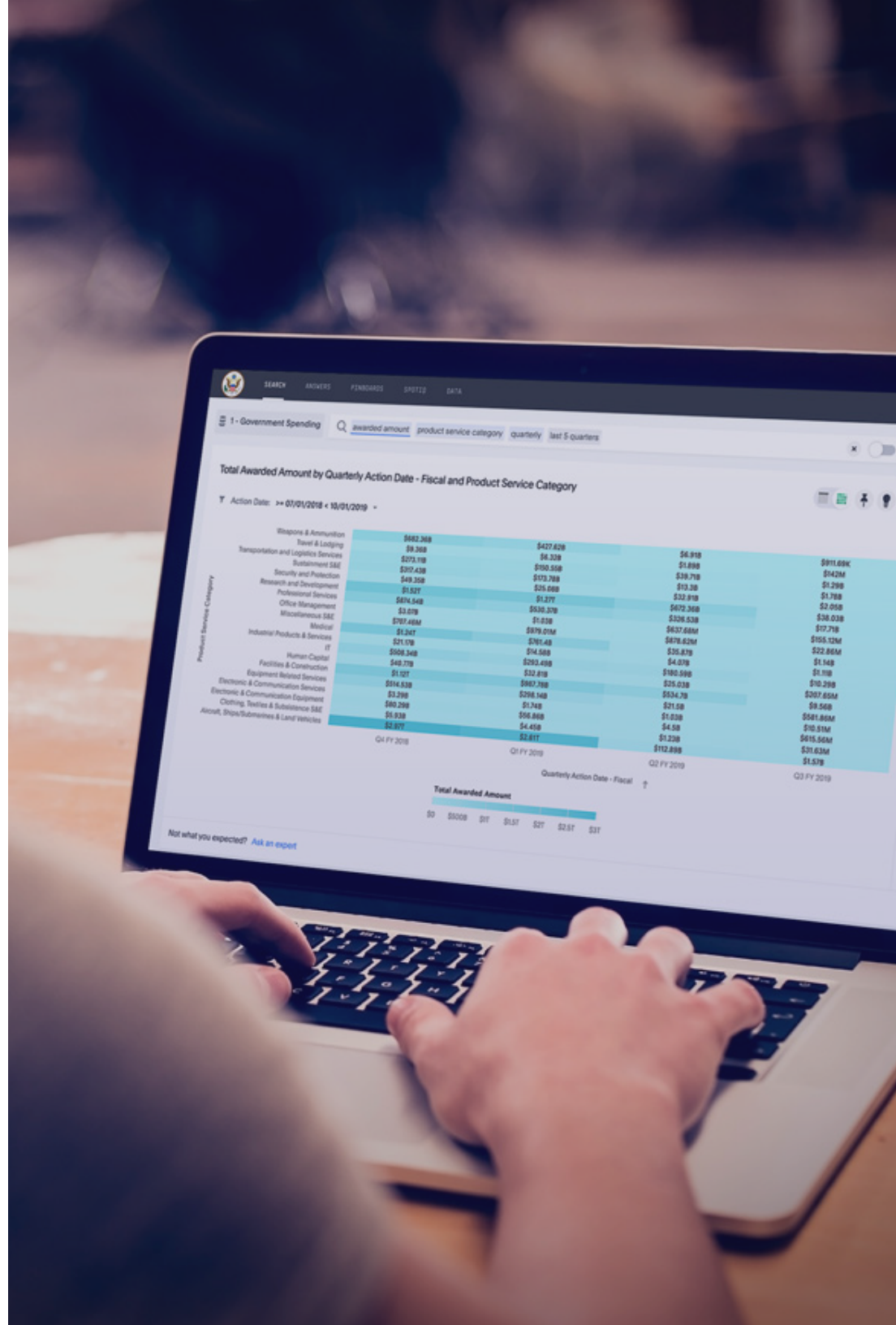
A search around supply chain efficiency would include a drill down into partners showing which ones are involved in the most delays. AI can make these connections and bring them to the forefront to help get to the "why" faster.

Power of Search = Power to the People

From line of business users to experienced data analysts, everyone benefits when data and insights are available by simply asking a question.

The ThoughtSpot Platform is bringing a more democratized approach to data access and management. People across the organization are able to quickly get at the information they need and more importantly are served insights and correlations about that data all via a search query. Data analysts are freed from the drudgery of reports and can use their expertise to provide valuable insights they discover in the platform..

Contact us today to get a demo of the ThoughtSpot platform and begin discussing how it can put the power of data into more hands across the organization to more effectively and efficiently meet mission goals.



Representative applications of this technology include:



Workforce Insights

Analyze hire to retire trends. Identify top recruiting initiatives and fill open positions sooner.



Procurement and Supply Chain

Gain visibility into the most granular transactions. Identify how many contracts have we awarded this year thru sole-source, OTA, or full and open competition Gain insight into which suppliers deliver on-time and those that are always late. Ensure you are getting the best price from vendors across the organization.



Case Management

Identify which cases take the most resources. How could case load be assigned more appropriately to streamline response and provide better citizen services?



Grants Management

With more than \$600B in grants disbursed each year, being able to ask questions about activities and expenditures allows agencies to identify which grants are more successful at driving mission outcomes.



Military Readiness

Bring together logistics, personnel, medical, training, and any other data to get a 360 degree view of the organization. ThoughtSpot also has the flexibility to allow leadership and each functional area (from the Pentagon to the forward deployed unit) the ability to focus in on the information that is most important to them.



Fraud Detection

Using SpotIQ, gain insight into anomalies and outliers that would otherwise go undetected, allowing agencies to get ahead of fraudulent activity.



Predictive Maintenance

Maintenance and logistics professionals can look across all of the vehicles they manage and quickly analyze trends or anomalies across work orders to find correlations between maintenance actions on specific vehicle components. This provides unprecedented visibility for service members in the field and increases uptime and overall readiness.



Law Enforcement

From local law enforcement to Homeland Security -- officers and agents can ask questions based on a current incident or investigation, and immediately get insights into detailed information that might be relevant.



IT and Asset Management

Personnel depend on having the right equipment to meet the mission. Know where assets are and how they are being utilized to make the workforce more efficient.



Disaster Response and Recovery

Resources must move fast, supplies move quickly. Timely response is critical. Get instant access to identify the right people and supplies to rapidly respond to those in need.



Insights at the Speed of Thought

www.thoughtspot.com

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