SPOTLIGHT
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AI is fueling the emergence of intelligent knowledge networks that can unlock the value of "hidden" information, including unstructured content and human expertise.

Combining AI with Human Expertise to Unlock the Power of a Knowledge Network

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Introduction

In today's increasingly digital, distributed, and disrupted world, organizations of all kinds are investing in efforts to raise enterprise intelligence, which IDC defines as the ability to analyze data to deliver insights at scale, to continuously learn based on those insights, and to synthesize learned information into insights that lead to improved decisions, business processes, and offerings faster than competitors. As business has moved into the digital realm, every employee has become a knowledge worker, while the volume, variety, and velocity of incoming information has continued to grow. From 2020 to 2025, IDC forecasts new data creation to grow at a compound annual growth rate (CAGR) of 23%, with an expected 175ZB of data created by 2025.

AT A GLANCE

KEY TAKEAWAYS

- Companies lose an average of 5.5 work weeks per year, per employee to the task of piecing together disparate data points.
- Improving speed, accuracy, and completeness of insights improves productivity and leads to better, faster business decisions.
- 40% of the Global 2000 will see a 25% improvement in information usage by 2026 due to investments in intelligent knowledge networks

Yet many organizations – particularly large enterprises – struggle to bring together knowledge from across different areas, as well as to collect, analyze, and surface the "hidden" knowledge that exists in unstructured content or in the heads of employees, partners, or consultants. IDC research indicates that knowledge workers lose an average of 4.7 hours per week — more than 5.5 work weeks per year, per employee — just to the task of combining pieces of data from multiple repositories to formulate an answer or solution.

These kinds of productivity issues, as well as opportunities for increased innovation and improved decision making, are causing forward-looking organizations to initiate projects to bring together all kinds of relevant information – whether it's in different formats, from different areas of the business, or even external to the organization – into a network of knowledge that is greater than the sum of its parts. A critical piece of such projects involves gaining an understanding of what knowledge exists within the organization in the form of employee expertise and where there may be gaps to fill. By leveraging a combination of data, human intelligence, and AI-powered knowledge discovery technologies that can analyze and synthesize information into contextualized insights, organizations can begin to build their own intelligent knowledge network and raise their enterprise intelligence.

Definitions

- **Intelligent knowledge network:** This emerging generation of knowledge management and knowledge discovery technology uses a combination of content services, knowledge management, and intelligent search, powered by advanced AI and analytics, as the glue that connects distributed workers, distributed content, and distributed insights together.
- **Intelligent knowledge discovery:** Intelligent knowledge discovery software (IKDS) refers to product/services that are used to develop solutions that find and provide answers, entities (people, places, things), and/or information. Examples include a wide variety of search systems, general-purpose question answering systems, and unified information access systems that combine text analytics, clustering, categorization, and search. The latest generation of intelligent knowledge discovery systems uses a combination of artificial intelligence (AI)/machine learning (ML)/deep learning (DL), natural language processing (NLP), ontologies/taxonomies, knowledge graphs, and/or semantic AI to analyze various structured and unstructured forms of data from different repositories and surface contextualized insights proactively.
- **Expert network:** This collection of subject matter experts is typically connected, organized, and accessed via some type of technology or software platform. Expert networks can include both experts and their expertise, represented as a combination of distinct but interrelated knowledge and skills amassed by a set of individuals. These "knowledge assets" are further defined in the next bullet.
- **Knowledge asset:** At its most basic level, a knowledge asset is a digital representation of a piece of knowledge. It may begin with the process of analyzing each expert in a network to understand the individual data points that constitute that person's expertise. Those data points are then distinctly weighted and factored into matching and quality control processes to enable users to find both direct and adjacent areas of expertise, as well as evolving experiences and skills.

The Benefits of Knowledge Networks

As discussed previously, employees across a variety of industries are being overwhelmed with an increasing deluge of data, resulting in a common complaint of "too much info, not enough insights." To succeed in such an environment, it is not enough for organizations to simply be able to find data; that data needs to be integrated, analyzed, and quickly distilled into actionable business insights for important business decisions.

Knowledge discovery and knowledge networks go beyond search and information retrieval to analyzing and synthesizing disparate pieces of data or information into useful, relevant knowledge and insights. However, if those insights are not actionable, the network risks becoming just another content repository. Successful knowledge networks can help to ensure knowledge is relevant and actionable by bringing in context and meaning, leveraging user signals to understand preferences for consuming knowledge, and embedding insights within the flow of work to provide the most value.

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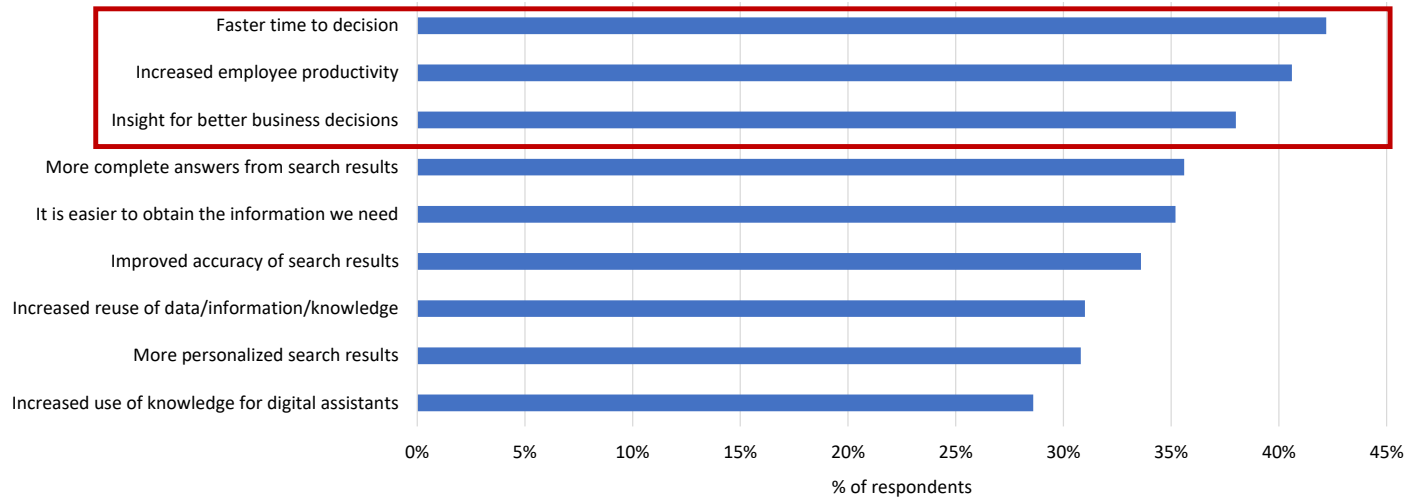
improving the employee experience. IDC research finds that knowledge workers waste hours per week on search activities such as looking for existing information but not finding it, recreating existing information, searching through multiple repositories for a single piece of knowledge, and synthesizing knowledge from across various sources to arrive at an answer or solution. Relieving them of such a burden can not only help to restore lost productivity hours and reduce frustration but also result in more complete answers and reduced time to insight. In turn, this can lead to broader business-level benefits such as increased enterprise intelligence and improved decision making. In fact, 2 of the top 3 benefits of IKN technologies such as AI-powered search are faster, better decisions (see Figure 1).

FIGURE 1: ***AI-Enabled Search Benefits***

Q ***In general, why has AI-enabled search been beneficial to you/your organization?***



n = 500

Source: IDC's AI-Enabled Search Survey, December 2019

Trends in Knowledge Discovery and Emerging Knowledge Networks

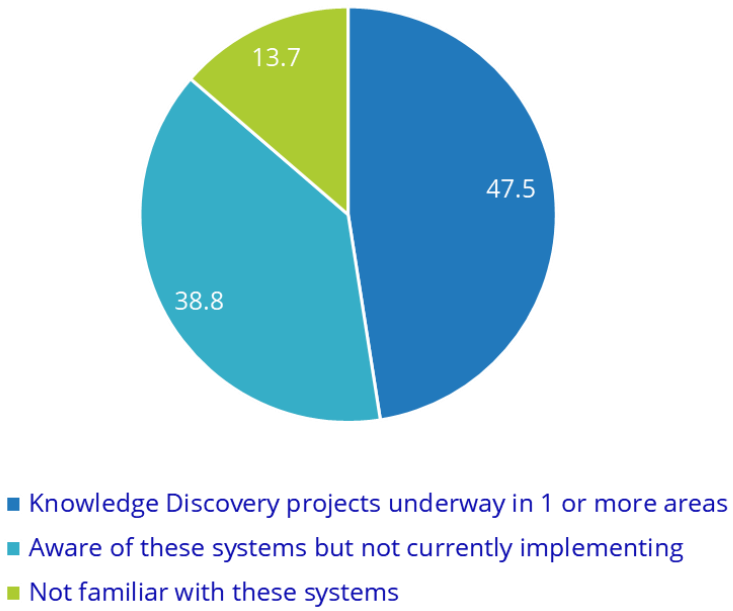
New and improved AI approaches, particularly those based on deep learning, are increasingly being used to help automate the collection, curation, synthesis, finding, and surfacing of knowledge, with the goal of helping organizations to raise their enterprise intelligence. While search and information retrieval technologies have been around for decades, these kinds of advances in AI are fueling a new surge of interest in and adoption of intelligent knowledge discovery software. In fact, IDC predicts that this market will grow at a 2021-2025 CAGR of 26.2%, reaching over $11 billion in that time.

When IDC recently asked respondents about their use of advanced knowledge discovery systems — defined as systems that use technologies like NLP, embedded knowledge graphs, ontologies/taxonomies, machine learning, and deep learning to analyze various structured and unstructured forms of data from different repositories, discover new information across the organization, and surface contextualized insights within the flow of work — nearly half (47.5%)

were both aware of and implementing this type of technology. Another 38.8% were at least aware of these systems, though they were not yet implementing them (see Figure 2).

FIGURE 2: ***Awareness of Intelligent Knowledge Discovery Systems***

Q ***Based on IDC's definition, are you familiar with these types of systems and are you implementing them?***



n = 400

Source: IDC's AI Adoption Survey, November 2020

When combined with AI-powered technologies for collecting and managing knowledge, these knowledge discovery systems can provide a foundation for an intelligent knowledge network. This is a valuable effort for any company to invest in, and IDC predicts that 40% of the Global 2000 will see a 25% improvement in information usage by 2026 due to investments in intelligent knowledge networks that turn structured and unstructured data into findable and actionable knowledge.

Considering Enquire AI

Founded in 2018, Enquire AI is an AI-powered knowledge technology company that helps organizations around the world to build and improve knowledge networks using a combination of AI, analytics, data science, and its own network of human experts. The Pulse Platform, a domain-agnostic, SaaS-based public cloud platform, is the foundation of Enquire AI's technology offering, aiming to efficiently extract subject matter topical expertise and context from large volumes of information while filtering out unnecessary information or "noise." It enables business users to find the knowledge they need to do their jobs and make better, faster decisions, whether that means pulling in outside expertise in real time or engaging the right internal resources.

The Pulse Platform leverages machine learning and NLP to interpret user queries in real time and search across more than 325,000 different knowledge assets to deliver answers directly to a user's dashboard. Its combination of AI and ontologies help to extract context and meaning, while its proprietary algorithm works to determine which experts and/or insights will be most valuable, relevant, and timely for the user.

Regardless of whether critical knowledge comes from internal experts, external experts, or a non-human knowledge asset, or some combination, making such knowledge actionable is a key feature of intelligent knowledge networks. In Enquire AI's Pulse Platform, this includes ensuring that users receive complete answers, rather than disparate data points, validating answers and summarizing expert insights for users with extractive and abstractive summarization, limiting such insights to 250 words to make them easier to consume. Another way that Enquire AI enables knowledge usage is by providing collaboration capabilities that allow users to pull knowledge assets, including both internal and external experts, into a centralized and organized workflow. This can help to speed time to value, ensure consistency across project teams, and assist with improved and accelerated decision making.

For organizations that have existing technology that they want to keep, the Pulse API has the potential to help them to derive more value from existing investments by simply overlaying Enquire AI's technology on an existing knowledge management or knowledge discovery platform. This allows businesses to take advantage of Enquire AI's network of experts and knowledge assets in addition to existing products, integrated directly within existing interfaces. Finally, Enquire AI's Lumina offering leverages its Pulse Platform technology to provide white-labeled internal knowledge management and knowledge discovery systems for enterprise organizations. The goal of Lumina is to help organizations to unlock the power of their own knowledge, including giving them the ability to identify and query organizational experts on various topics, by helping them to build their own knowledge network.

Challenges

The market for combining human experts as a service with technology is relatively nascent and will require some buyer education effort from any vendor seeking to provide such an offering. Some enterprises perceive existing knowledge management and discovery solutions as "good enough," and Enquire AI will likely need to provide stronger ROI/ROV arguments than the potential for increased employee productivity.

From a technical perspective, many organizations have a variety of existing knowledge management and knowledge discovery technologies, from enterprise intranets to legacy search engines to CRMs and other systems of record. A successful knowledge network needs to be able to integrate data from across the enterprise, and Enquire AI will need to continue to demonstrate strong integration capabilities as well as a deep understanding of its platform's place in enterprises' overall knowledge network strategy.

Conclusion

Organizations across the globe are beginning to reconcile advanced user expectations and increasing needs for knowledge discovery by using AI-powered technologies that can enable an interconnected knowledge network of experts and expertise. Improved decision making is a primary benefit of knowledge discovery, and IDC expects to see use of these systems continue to expand outside of IT use cases into areas such as R&D, operations, engineering, and procurement. IDC believes that knowledge networks will be an important component of organizations' efforts to raise enterprise intelligence, and to the extent that Enquire AI can address the challenges described in this paper, the company has a significant opportunity for success.

About the Analyst

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Hayley Sutherland is a Senior Research Analyst for Conversational AI and Intelligent Knowledge Discovery within IDC's Software market research and advisory group. Her core research coverage includes conversational AI and search, with a focus in AI software development tools and techniques for chatbots and digital assistants, speech AI and text AI, machine translation, embedded knowledge graph creation, intelligent knowledge discovery, and affective computing (also known as emotion AI).

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More About Enquire AI

Find out how an intelligent knowledge network can super-charge your business. Our partnership team has deep experience helping organizations customize solutions at the intersection of human intelligence, data science, and technology. Let's explore how Enquire AI can help put your company's knowledge to work more effectively.

- **Discover** efficiencies that will make a difference. Identify the areas your company can reclaim bandwidth and capital.
- **Identify** opportunities. Our partnership team can evaluate your knowledge environment — find potential efficiencies, gaps, and hidden capabilities in your knowledge base.
- **Engage** today. We understand that your time matters — an initial consultation will only take 15 minutes.

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