Seven reasons why your enterprise needs intelligent search

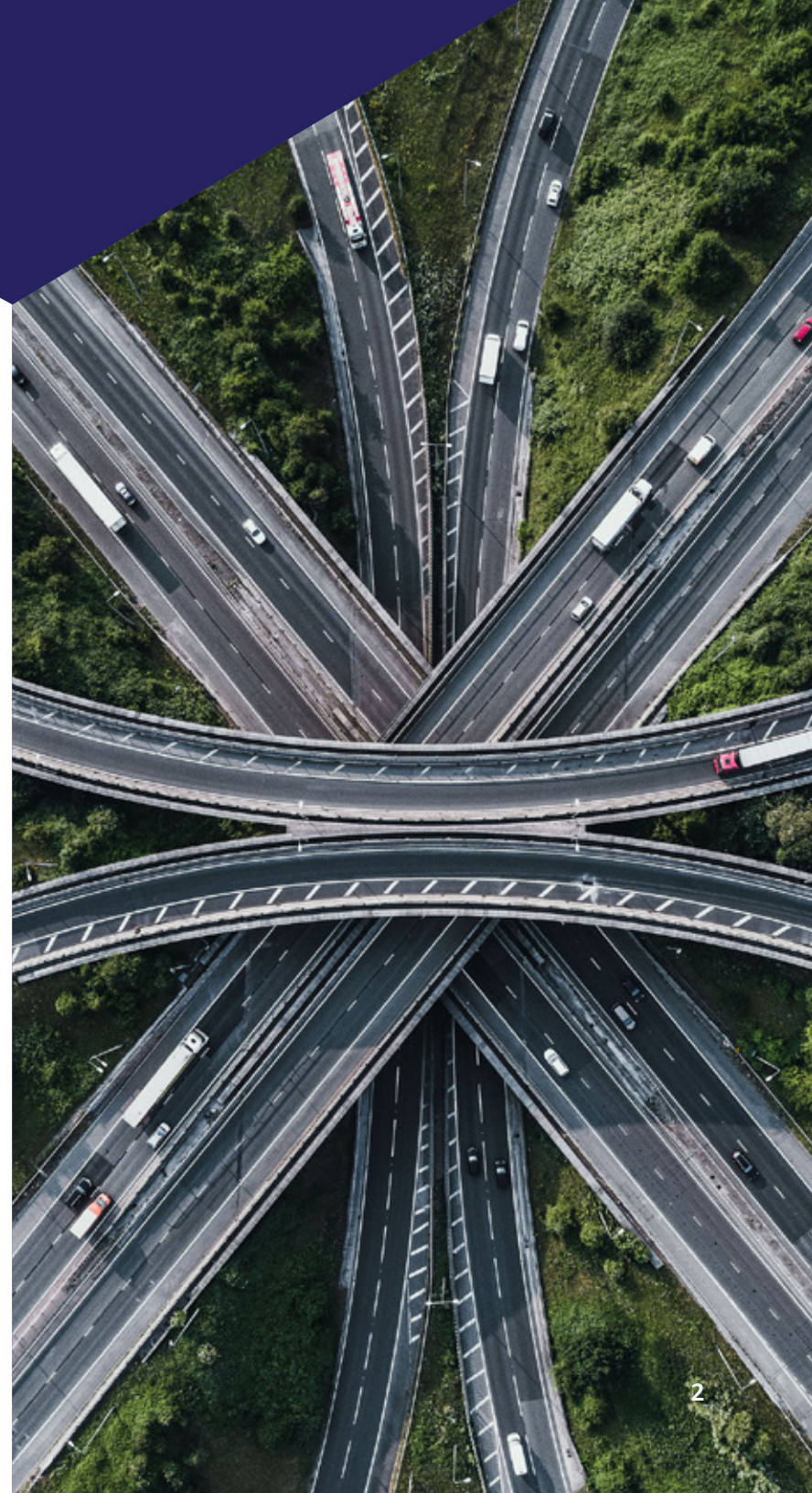# An organization is only as productive as its knowledge base and insights

All departments across the enterprise—engineering and research, customer service, sales and marketing, finance and HR—need specific information to perform their roles. Knowledge is key to business insights, and there are hard costs associated with time spent searching for information and making faulty decisions based on wrong or out-of-date information.

A McKinsey report estimates that digital workers spend almost 20 percent of their time searching for and gathering information.[1]

Why is enterprise search failing?

The modern digital workplace amasses volumes of valuable data that is "structured," where it is expressed in rows and columns, and "unstructured" like text documents, webpages, images, audio, and video. These unstructured datasets make it difficult to search, discover, and analyze the right information to gain insights and make decisions. Across these data silos, there are hidden sets of knowledge that range from being useful to essential to crucial.

1 https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/the-social-economy

While enterprises are well equipped with tools and techniques to search structured datasets, unstructured data remains a challenge

Intelligent search is a reimagined enterprise search offering powered by machine learning (ML). It returns highly accurate information that resides in unstructured data that's spread across the organization. Intelligent search uses ML technologies such as natural language understanding (NLU) and deep learning to better understand search query intent and the content meaning and relationships between structured and unstructured information. Implementing intelligent search across your organization can be transformational in many ways.

Consider a Fortune 500 global bank that was required to hold cash reserves of close to $1 billion in anticipation of fines and penalties related to regulatory noncompliance. After implementing intelligent search capabilities, the bank increased its ability to quickly and accurately detect and interpret regulatory rules. This, in turn, helped the bank reduce cash reserve requirements, expand compliance coverage, and achieve a greater degree of transparency in its regulatory process.

How can your enterprise extract the insights buried within your organization?

Machine learning can help to solve the challenges faced in enterprise search with AI technologies, such as NLU and deep learning.

Amazon Kendra is a highly accurate and easy-to-use intelligent search service powered by machine learning. Amazon Kendra delivers powerful natural language search capabilities to your websites and applications so your end users can more easily find the information they need within the vast amount of content spread across your company.

ML-powered intelligent search technology delivers actionable insights to the enterprise in seven high-impact areas.

7 reasons why your enterprise needs intelligent search:

1   **Democratize your organization's knowledge base**

2   **Increase workforce productivity**

3   **Improve customer self-service and satisfaction**

4   **Accelerate regulatory compliance**

5   **Improve talent utilization and revenue uplift**

6   **Ensure employees have access to relevant and fresh insights**

7   **Promote effective collaboration with experts across the organization**

1

Democratize your organization's knowledge base

Due to the nature and structure of business information stored across various organizational silos, it is a tedious process for any internal or external user to find the information they are looking for. An employee often consults up to six different sources such as emails, knowledge portals, community forums, FAQs, and document repositories to find the target information.

Businesses can create a knowledge catalog by unifying and indexing content from these multiple, disparate information systems on-premises and in the cloud. By applying intelligent search capabilities such as entity extraction, content tagging and classification, search facets, and search analytics, the knowledge catalog can help businesses assess their overall knowledge coverage and quality.

Project and legal teams often need to monitor software development in order to understand product dependencies on open-source libraries and if any liability or compliance issue needs to be addressed. It can answer questions such as "What software includes open source?" Intelligent search quickly surfaces an answer by analyzing content found in related product manuals, source code documentation, and technical bulletins. This was previously impossible with plain keyword search.

TC Energy is a leading energy infrastructure company whose business relies on quick access to information on how to safely provide energy to customers.

In a few days, TC Energy built an integrated enterprise document search prototype with Amazon Kendra. This allowed their teams to access essential safety information from dozens of systems through a central search console and enabled their employees to focus on business priorities.

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Increase workforce productivity

Intelligent search's ability to unify, parse, and comprehend content from the multi-structured information silos, then parse, interpret, and understand the end-user query enables it to deliver accurate and actionable search results. Employees can reduce their search time and make more data-driven business decisions.

Intelligent search can also build user profiles and prioritize answers that are more relevant and personalized based on a user's organizational role and behavior.

For example, a multinational company receives inquiries concerning spending with a specific vendor from employees in the procurement and finance departments. In their search results, a finance employee would see pending vendor invoices first, while a procurement employee would see submitted purchase orders for the same vendor. Similarly, search results are filtered and prioritized differently for development, sales, marketing, or customer support users.

Onix is an award-winning cloud consulting company that has helped hundreds of customers adapt to the ever-changing search landscape. As search capabilities have evolved over the years, users are expecting the same experience they get from the semantic search engines and voice assistants they use in their everyday lives.

"Powered by machine learning and natural language understanding, Amazon Kendra improves employee productivity by up to 25%."

Tim Needles, president and chief executive officer of Onix

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Improve customer self-service and satisfaction

Customers live in an on-demand world that needs to provide customer service support anytime and anywhere. Providing a better search experience across all customer-facing applications such as chatbots or external search can increase a customer's ability to resolve their own questions. This creates an intuitive and personalized search experience that enhances retention and maximizes upsell opportunities.

One technology company had a self-service technical support system for customers that was ineffective because it did not have centralized access to all the technical documentation spread across the company. This prevented users from automatically solving complex technical issues with the installed vendor product and led to reduced customer satisfaction and an increase in technical support costs.

With the adoption of an intelligent search-based user experience, the self-service chatbots were able to resolve frequently asked questions and customer representatives were able to quickly find tips, solutions, and insights to drive their troubleshooting and resolution efforts with reduced reliance on the support team. This resulted in fewer support calls and an overall increase in the satisfaction index.

Citibot provides chat tools for citizens and their local and state governments to communicate effectively and efficiently. Citibot expanded its chatbot with Amazon Kendra's intelligent search capabilities, which helped cities improve the scalability and robustness of the bot's interaction with constituents.

"Amazon Kendra has enabled citizens to find the answers they seek quickly by engaging with the chatbot and reduce wait times by up to 90%."

Bratton Riley, founder and chief executive officer of Citibot

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Accelerate regulatory compliance

Leveraging intelligent search to automate the process of identification and interpretation of policy rules published across hundreds of diverse regulator websites helps compliance officers to accelerate and improve the policy enforcement process. This enables highly regulated industries such as financial services, banking, biotechnology, and pharma to act intelligently and proactively to avoid hefty regulatory fines and maintain corporate credibility. For example, a global financial services leader operating across 50 countries was able to reduce required cash reserves by 50 percent and free up large working capital by applying intelligent search to their process of regulatory monitoring and policy compliance.

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Improve talent utilization and revenue uplift

Manually shortlisting resumes and candidate profiles from a broad repository can lead to a sluggish talent acquisition workflow. Long turnaround times in identifying correct profiles for open positions often result in revenue delays and the loss of business opportunities. With the application of intelligent search-based screening automation, a global software services company was able to increase the number of matching sourced profiles by 35 percent and reduce the average time required in identifying and allocating a resource to a billable project by over 30 percent.

PwC is a network of firms delivering assurance, tax, and consulting services globally. PwC designed RegRanger for regulated industries to provide access to regulatory and compliance information as well as proprietary PwC insights. PwC is now developing and testing enhanced search capabilities with Amazon Kendra for the next version of RegRanger. These enhanced capabilities will allow users to ask natural language questions, which is a dramatic improvement over traditional keyword searching methods and manual reviews of documents.

"We are excited about the added value that Kendra will bring to our customers in regulated industries."

Chris Curran, chief technology officer and partner of PwC New Ventures

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Ensure employees have access to relevant and fresh insights

As a business evolves, so does the information it holds. Content and context change, as does the information need. For example, the most effective troubleshooting steps for a networking device may change with subsequent versions and correspond to the different ways it is configured, integrated, administered, and used.

Intelligent search handles this dynamic by using machine learning for user behavior analysis, knowledge graph rewiring, and relevance tuning of results. New content is processed by machine learning models or can be manually adjusted to ensure search results are continuously calibrated for precision.

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Promote effective collaboration with experts across the organization

ML-powered intelligent search extracts and delivers answers and interpretations from the knowledge bases throughout the organization. But human intelligence adds a dimension of undocumented experience and creativity. For questions that cannot be answered by content alone, intelligent search identifies and recommends human experts from within the organization or across the business community who can offer solutions, opinions, and collaborative input. This approach enables organizations to actively collaborate and fast-track innovation, implementation, and adoption around new technologies and products.

3M is a Minnesota-based multinational corporation that produces adhesives, medical products, and more. When 3M's material scientists lead new research, they need access to information from prior research that is buried in their massive knowledge base. To address this problem, 3M is using Amazon Kendra to create a central search console to handle natural language queries from their scientists quickly and accurately.

"With Amazon Kendra, we expect our engineers and researchers will find information much faster than they did before. Our scientists are enthusiastic about this new superpower and we expect them to be able to innovate faster, collaborate more effectively, and accelerate the ongoing stream of unique products for our customers."

David Frazee, vice president of 3M

The intelligent search difference: engineered cloud-first, ML-first

Unlike the search tools that require significant capital expenditure before implementation and continuous manual review and calibration, ML-powered intelligent search-as-a-service can be implemented quickly and bypass adoption barriers. The key differentiations include no special customization or tuning required; the technology can be applied out of the box to different use cases across a variety of domains; and it helps deliver answers and actionable insights extracted from complex technical content.

Amazon Kendra is an excellent example of an on-demand intelligent search solution that delivers an effective answer-oriented experience, powered by content unification, natural language understanding, text analytics, and machine learning.

Machine learning and artificial intelligence are making a phenomenal impact on the search implementation and adoption process to deliver an adaptive search experience:

1. Intellectual interpretation of search query for enhanced user intent detection.

2. For general queries, accurate answers, and pointers to the most relevant passage from unstructured document content.

3. Identify and deliver clusters and facets of related knowledge mined from across the set of diverse, disparate, and distributed repositories to enable smart navigation and discovery of relevant information.

4. Interpret user query patterns and behavior to deliver enriched content (e.g., auto generation of synonyms) and corresponding search experience.

5. Deliver meaningful results to users without needing any significant content curation, query customization, or other forms of upfront tuning.

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Things to consider when evaluating intelligent search:

1. How should we evaluate new search technology like Amazon Kendra and compare it with what we use or know?

2. How do we determine our readiness in migrating to or implementing intelligent search?

3. How should we establish the total cost of ownership, the business value, and the cost-benefit analysis around intelligent search implementation of our identified use cases?

For further details, visit Amazon's Intelligent Search Solution ›

To get started, we are making available
An Essential Primer on Enterprise Search Evaluation for stakeholders and champions at knowledge-driven organizations.

About Persistent Systems

Persistent Systems helps companies across industries to evangelize, evaluate, implement, and adopt Amazon Kendra to achieve maximum business effectiveness and workplace productivity.

Persistent has worked with AWS since 2012, helping companies to evaluate, implement, and adopt a variety of AWS products and services, including Amazon Redshift, Amazon SageMaker, SaaS, and Amazon Kendra. It has been recognized as an AWS DevOps Competency Partner.