IDC EXECUTIVE OVERVIEW

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An intelligent knowledge network (IKN) is a collection of human and information technology "nodes" that interact across the workflow of knowledge capture, synthesis, surfacing, and use. This paper explains how IKNs work and produce important benefits for the organizations that leverage them.

Intelligent Knowledge Networks: Unleashing Enterprise Knowledge to Thrive in the Digital World

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Introduction

Faced with a rapidly changing business landscape, enterprises across the globe are reevaluating their work models and redefining their competitive differentiators. As a result, a growing number of enterprises are investing in technology, people, processes, and culture to raise their enterprise intelligence, which IDC defines as an organization's capacity to learn, ability to synthesize information, and ability to apply the resulting insights at scale by establishing a strong data and knowledge culture.

One of the emerging foundational capabilities of enterprise intelligence is an intelligent knowledge network (IKN). This new generation of knowledge activation technology and processes connects distributed workers to distributed information and knowledge, resulting in better productivity, experiences, and business outcomes.

AT A GLANCE

KEY STATS

Enterprises that consistently leverage intelligent knowledge networks see the following gains:

- An additional 11% improvement in intra-team collaboration
- An additional 13% improvement in process quality
- An additional 16% improvement in employees' ability to self-service

In 2021, IDC set out to study factors that define IKN maturity and associated practices that lead organizations to positive business outcomes because of better IKNs. Our research, which was underwritten by several leading technology vendors, included interviews with top-level leaders at six companies, interviews with several systems integrators, and a global survey of 1,517 respondents across industries, organizational levels, and roles.

IDC defined and measured IKN maturity for each of these organizations as an aggregate measure across the following four steps of knowledge activation:

- Capturing knowledge
- Synthesizing, analyzing, and enriching knowledge
- Finding, surfacing, and sharing knowledge
- Using knowledge

The IKN score allowed us to assess challenges, common practices, and benefits of knowledge activation across organizations with four maturity levels: novice, explorer, practitioner, and transformer. According to the latest IDC research, enterprises that are consistently leveraging IKNs (we call them IKN transformers) see an additional 11% improvement in team collaboration, an additional 13% improvement in process quality, and an additional 16% improvement in employees' ability to self-service compared with IKN novice enterprises.

The Goal: Knowledge Activation

Whether your organization is affected by "the Great Resignation" because of the pandemic or a generally aging workforce, on a digital transformation journey looking to raise its enterprise intelligence, or in a fully remote or hybrid work environment, it is increasingly clear that different methods of activating knowledge and facilitating enterprise learning are playing a critical role in defining success.

As the CEO of one of the companies participating in IDC's research stated: "We have to work better over distance, we have to work more openly and collaboratively, and we have to activate more knowledge than any one of us has in our 'head.' We have to not be a collection of individual experts but a network of practitioners who know things — but also know how to get knowledge that they don't already know and bring it to bear just in time to make our clients better."

A vice president from another company added, "We didn't have common processes, we weren't using common tools, and the team was in reactionary mode. Seasoned individuals of 15–20 years were not sharing information. We asked ourselves: 'How do we now capture that knowledge that's in our employee's heads and make it available to our customers?'"

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While the ultimate goal of IKNs is knowledge activation and subsequent productivity and other business benefits along the way, IKNs help overcome several persistent challenges.

Challenges

The biggest challenge — even for organizations with the greatest IKN maturity — is that the use of the IKN is not enterprisewide for every function and role, which reduces its effectiveness and reach within the organization. Other frequent challenges are:

- Most organizations have a manual process for knowledge capture, synthesis, surfacing, and use.
- Organizations focus on highly curated knowledge assets such as procedural documents or white papers, ignoring mining of knowledge from communication and collaboration channels.
- Organizations are using disconnected technologies, including knowledge bases, search engines, content repositories, and multiple email and messaging systems.
- Organizations rely on a few knowledge experts or corporate librarians. This bottleneck stifles the ability of everyone to participate in an enterprisewide knowledge network.

- Knowledge management technology in most organizations is disconnected from other technology platforms, forcing users into context switching and passive knowledge discovery instead of proactively presenting users with relevant knowledge in the flow of work.

To overcome these challenges, enterprises are deploying various IKN solutions.

Intelligent Knowledge Network Solution

An IKN is a collection of human and information technology "nodes" that interact across the workflow of knowledge capture, synthesis, surfacing, and use. In such a network, each node is empowered and enabled to act across each of the steps outlined in this section. Each step builds on the previous one as knowledge is ushered along on a path from its raw form toward actionable insights, better business decisions, and measurable business improvements.

Today, anyone in the company can and should be part of an IKN. From the technology perspective, a modern IKN includes several components or cloud services that provide the following functionality:

- **Capturing knowledge.** The ability to connect to a broad range of systems that contain unstructured and structured content, including documents, presentations, spreadsheets, patents, social listening feeds, external market analyst reports, engineering and technical documentation, email, meeting transcripts, chats among team members, content from industry standards, conference proceedings, and enterprise applications. For example, one of the organizations IDC interviewed has indexed over 61 million different pieces of content from more than 111 knowledge bases into its IKN, with more to follow.

  IDC's research study found that almost 40% of IKN transformers captured at least three-quarters of their available information and knowledge, whereas most IKN novices captured less than 50%. IKN transformers achieve this by empowering employees as experts and using a combination of automated processes and human oversight to capture both internal and external knowledge.

  While most organizations use a range of enterprise content management, document management, and team collaboration applications, the biggest differentiator of IKN transformers is their use of AI-infused intelligent document process software.

- **Synthesizing, analyzing, and enriching knowledge.** Knowledge from any one source must be analyzed, enriched, and synthesized with knowledge from other sources to create a unified body of knowledge. IKNs provide a combination of processes and technologies needed to ensure consistency, accuracy, and relevance of knowledge.

  This requires functionality to index knowledge, to create relevant knowledge filters, to auto-extract and/or generate metadata from unstructured content (including the ability to auto-tag content authors, which can then also be used as a filter to identify company experts), to tune content relevancy scores based on individual company requirements, to personalize search results by factors such as role or experience level, to support both keyword searches and the ability to ask questions in natural language, and to provide complete answers, not just data points.

  IKN transformers also use more technologies than other organizations for synthesizing knowledge. Across all enterprises, knowledge graphs are the most used technology to synthesize knowledge, while with greater maturity comes more frequent use of taxonomy and ontology software.

- **Finding, surfacing, and sharing knowledge.** This step of the previous generation of knowledge management initiatives has focused primarily on searching for already curated knowledge assets. While enterprise search remains part of the backbone of an IKN, recent technology advances — for instance with knowledge graphs, AI-based recommendations, and conversational interfaces — have enabled organizations to complement the knowledge-finding process with proactively surfacing knowledge to users across the enterprise.

  IKN transformers recognize that these are complementary approaches to knowledge finding and surfacing and, furthermore, must be extended with functionality for knowledge sharing — within the organization and with external stakeholders. Some of the common IKN solution capabilities that IDC researchers found among IKN transformers include personal smart search assistants that learn users' interests over time and use that information to present new content as it becomes available, searching based on natural language and in multiple languages, saving and sharing searches based on specific use cases, defining alerts to proactively receive the latest relevant information or knowledge assets, and using transaction and interaction logs to determine who is accessing which knowledge assets (as well as when and how) and in what format.

  Further, a key capability of IKNs is security management via appropriate access controls and governance, risk, and compliance practices.

- **Using knowledge.** Significant progress has been made in capturing, synthesizing, analyzing, enriching, finding, surfacing, and sharing knowledge across enterprises. Technology vendors continue to introduce enhancements to their IKN solutions, enabling greater automation, accuracy, and timeliness across the first three stages of the knowledge activation process. However, without sufficient investment in the last stage — using knowledge — all preceding investments would not result in a return on their investment.

  In our research, we found that IKN transformers are ahead of other organizations in making knowledge actionable and ensuring that the whole knowledge activation process enabled by an IKN results in insights, not just a static corpus of information. Success at this stage of the process requires a clear understanding of different user personas and their unique requirements and interaction methods with knowledge assets. This can include different methods for developing user interfaces, the embedding of IKN functionality into other enterprise applications, and various degrees of self-service and full-service knowledge use functionality.

Benefits

IKN initiatives produce two types of benefits: operational and business. We define operational benefits as those focused on productivity of knowledge work across the four stages defined in our study. We define business benefits as the quantifiable improvements in financial, customer experience, and other core organizational KPIs across business functions.

Operational Benefits of Intelligent Knowledge Networks

IDC's research identified the operational benefits of IKNs that most differentiated IKN transformers from other enterprises. These benefits are detailed in the sections that follow.

Capture

- Increased internal contribution of employees
- Increased ability to leverage lessons learned from past projects
- Increased visibility, auditability, and accountability of the knowledge capture steps

Synthesize

- Improved quality of information produced as part of the synthesis step
- Improved accuracy of predictions and recommendations
- Improved subsequent findability of knowledge

Surface

- Improved employee productivity
- Reduced search time for relevant knowledge content
- Increased number of times knowledge content is accessed

Use

- Improved process quality
- Improved employee ability to self-service
- Reduced process time

These benefits, in aggregate, not only resulted in improved decision making by individuals but also facilitated better collaboration by enabling expert identification — underpinned by the IKN's ability to track knowledge asset usage and sharing patterns. As a senior director of Customer Success at one of the companies participating in the IDC study said, "The idea is that every time one of our knowledge resources is getting touched, it's getting better. It's either able to solve the user's problem or we're making it more capable of solving it the next time it's used."

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While operational benefits can be thought of as more tactical, they lead to broader business benefits that have a significant strategic impact.

Business Benefits of Intelligent Knowledge Networks

Business benefits of IKNs range from cost avoidance to revenue gains. One of the companies participating in the IDC study pointed to savings of $200,000 from not having to duplicate purchases of external research services because of better internal knowledge content sharing among business units. Another company highlighted a 25% gain in the productivity of its engineers. And yet another company was able to improve its security and compliance processes because of the investment in an IKN.

A technology company improved labor allocation to mission-critical initiatives and projects. Its global customer care lead noted, "Although our customer base increased, we did not have to increase our support team. We also saw the number of cases going down."

However, it also became clear that quantifying some benefits of IKNs is difficult. As one of our study participants stated, "We have so many use cases for indirect savings that are very difficult to quantify. It's like when you're driving somewhere. If you don't take the wrong exit on the way to your destination, how do you calculate how much time you've saved by not making a wrong turn? It's very difficult to do."

The IDC study highlighted that IKN transformers attributed IKNs to greater revenue gains than IKN practitioners, explorers, and novices. IKN transformers were also better than other organizations in redirecting resources to higher-value and/or revenue-generating activities. Other top business benefits of IKNs included:

- Increased satisfaction and engagement among partners, suppliers, and customers
- Improved time to market
- Reduced compliance and/or business risk

Recommendations

Successful IKNs at any organization depend on intentional management of knowledge — its capture, synthesis, analysis, enrichment, surfacing, and sharing. The following recommendations are based on lessons learned from IKN transformers:

- IKNs must incorporate a broad range of technical functionality and capabilities, which in rare cases will be available from a single technology provider. When evaluating IKN technology, ensure interoperability among various technology components.
- In the near term, full automation of the end-to-end knowledge activation process is not feasible. Ensure that the "human in the loop" approach is used whereby people guide and govern technology, while technology automates previously manual tasks at scale.
- Strategy, communication, and value proposition of IKNs shouldn't be limited using the library metaphor. Enterprise knowledge resides not only in fully curated documents but in the ad hoc and unstructured interaction streams of employees across the enterprise and in communication with clients. Ensure that all forms of knowledge are address by the IKN.
- Enterprisewide IKN initiatives require executive support, or they risk perpetuating historical knowledge, technology, and funding silos. Articulate the value of the IKN by highlighting operational and business benefits of bridging these silos.
- IKN success depends on all steps of the knowledge activation process to become an integral part of every employee's ongoing work. In other words, IKN technology should be leveraged to maximize the use of the latest automation functionality, and employees should be incentivized to participate in IKNs by understanding the benefits they, their colleagues, and the enterprise can achieve.

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IDC Custom Solutions

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