The Power of AI-Assisted Enterprise Search

A BA Insight Whitepaper

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Enterprise Search: Healing the Hidden Pain Point

Each day knowledge workers around the world waste an enormous amount of time searching for documents and data across corporate intranets and other enterprise infrastructure.

The same workers who can pull out a smartphone and immediately locate a nearby restaurant, or compare hotel prices around the globe, find that this type of internet search simply isn't available on their corporate intranet when traversing the many data stores within their own organizations.

Various analysts have tried to put a price tag on the lost productivity of inadequate enterprise search.

- McKinsey estimates the average employee loses about 1.8 hours a day—nearly 20% of the workweek—searching and gathering information.[1]
- Analysts at IDC placed the figure at 2.5 hours a day—nearly 30% of their workweek—searching for data that should be at their fingertips. [2]

You can run your own multipliers of number of employees and hourly costs, but the losses from inefficient searching is staggering—a hidden pain point.

The Problem is Getting Worse

The problem is only getting worse. Organizations have more data than ever, and it is spread across a variety of applications and data stores—on premises and in the cloud—that have defied centralized search. The challenge is how to unify search across disparate silos ranging from Outlook to SharePoint to Salesforce to ServiceNow to OpenText to Amazon S3 to Google Drive to SQL Server and beyond.

The Good News: BA Insight provides the ability to deliver a unified search experience that includes results from all of your content sources. Whether you are using a platform-based search engine such as SharePoint Online/O365, SharePoint Server, or a standalone search engine such as Elasticsearch, Apache Solr, or Azure Search, BA Insight provides connectivity to enable you to deliver a single AI-enhanced search environment in multiple ways:

- Single Index. If your environment is comprised of a single search engine, BA Insight connectors and SmartHub provide secure indexing and an Internet-like search experience to your users.
- Federated Indices. Sometimes creating a single index simply isn't practical. Content repositories such as Box can house massive numbers of files, many of which are useful only to their owners; data residency restrictions can mandate that documents remain in their country of origin; existing

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[1] https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/the-social-economy
[2] https://www.scribd.com/document/70230854/IDC-on-the-High-Cost-of-Not-Finding-Information

search applications may use different search engines. Whatever the reason, BA Insight products allow users to seamlessly search across multiple indices and receive a single set of results.

A Solution that Resonates

Before taking a look at why Enterprise search is mission critical, and at our extremely efficient modular architecture for facilitating enterprise search, it's important to point out that our solution is so effective that it has already been adopted by:

- 3 of the 4 top Consulting Firms
- 6 of the 10 premier Biopharmaceutical Companies
- 5 of the 10 largest Law Firms
- 4 of the 10 leading American Oil and Gas Companies
- Equally, we have over 30 small and mid-sized customers with the number of users as low as 200

125+ companies use BA Insight to enhance enterprise search for more than 3.5 million users.

All of this is to say, when you choose BA Insight, you are in good company.

Why Enterprise Search Should be Mission Critical

Business runs on information. The degree to which knowledge workers can access the documents and data they need to make informed decisions and power their work is a gating factor on their productivity. Yet, too often this information is simply too difficult to find.

The best way to appreciate the value of efficient search is to consider the many ways in which existing—hidden—data can provide value. Consider a sales representative preparing a presentation for a new customer interested in purchasing an irrigation system for their water-constrained golf course in Arizona. The course has a full 18-holes plus a short 9. The sales rep knows a colleague has created presentations in the past for a similar course in another state but isn't sure who to ask, or where their documents would be.

From RFPs to PowerPoints

The same goes for anyone involved in responding to an RFP, or who wants to save time in creating a PowerPoint by finding what others have created for similar clients. Or, someone who needs to find data from disparate application stacks or databases.

Challenges We've Helped Our Customers Overcome

Making Content in Other Systems Available to More Users

Making a Specific Use Case Work

Enterprise-wide Efficiency

Figure 1. Companies of all sizes in all industries can benefit from a great enterprise search solution.

A lot of time is expended simply finding out who has the right knowledge or experience to draw onto a team or to simply confer with. Time can be lost whenever someone is asked to access and navigate a data store they don't normally use. That could be an HR system that an employee might only need once or twice a year, or it could be information that—unknown to the user—is sitting out on your Salesforce application or on a cloud-based file server, or sitting in a maze of their own e-mail folders.

The growing use of social media, big data analytics, and video communication means that information can be unstructured or semi-structured in addition to traditional structured data.

Search Empowers Employees

The faster and more precisely an organization can support enterprise search, the better they will be able to empower their employees and meet the needs of their customers. This is why enterprise search is mission critical. Enterprise search provides a significant competitive edge.

The more data we have, the greater the value an organization can harvest—but only if the information is readily available from an integrated, centralized search environment, which is what BA Insight provides.

A Quick Look at *WHY* Search Has Been So Difficult

"Why can't I just Google it?"

Internet search engines like Google and Bing instantaneously dive through a world of data and emerge with impressive results. So, a common complaint from knowledge workers is: Why can't we do this across our intranet?

The answer, of course, is that internet search engines are dealing with . . . the internet, that universe of sites that are built to be open to all. Each page is meticulously tagged to be findable, behind the scenes there are administrators tuning relevancy. AI is used in multiple ways ranging from natural language interaction to tagging images so that they are findable. Intranets, on the other hand, have historically been quite different. They involve a variety of systems, there is little to no tagging, and not only do users have to find documents, but also the specific pages within the documents, and nothing is available except keyword search. To make matters worse, intranets have to provide role-based access in a secure manner that enforces policy and safeguards intellectual property.

Add to that the diversity of architectures and platforms, and the real scope of the problem becomes clear. An organization may have dozens—or even hundreds—of line of business applications and data stores running on different operating systems, utilizing different database management systems, all requiring their own code and protocols to support search.

One legal firm, now benefitting from our BA Insight AI-assisted search environment, needed to unify search across six different content storage platforms and also needed to support search across multiple languages.

Traditionally: Massive Development and Systems Integration

Traditionally, such unification projects require a massive development and systems integration effort— usually with large, dedicated staff to continually troubleshoot as applications within the enterprise are updated or in other ways develop search integration problems. Additional complexity is introduced by the need to apply role-based access, compliance policy, and security enforcement across all the accessed applications and data stores.

In most cases such integration projects are either not undertaken or incompletely executed, leaving knowledge workers dissatisfied, so they go back to the time-consuming task of running multiple searches against multiple disparate applications and data stores—with a vast value of information simply remaining hidden, or just giving up and reinventing the wheel.

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Architectural Overview

BA Insight provides a search environment that unifies disparate applications and data stores both by the creation of a single unified search index containing information from multiple systems, and the ability to search across multiple search engines. This removes the pain, frustration—and time sink—from enterprise search. One of its great strengths is that BA Insight isn't a search *engine*, but a platform that creates a more powerful, comprehensive search environment, supporting whatever search engines you currently use, as well as search engines you would like to add. It does this with a robust architecture to facilitate connections, as well as automated tagging technology to make searches more relevant for individual users.

To get a better idea of how our modular search environment works, here's a quick look at some of our core elements—all of which can be deployed either as individual modules or combined for a more complete solution. Our modular architecture makes it easy to implement only the pieces that address your most pressing needs. Of course, once our customers experience the value of one module, they are generally eager to add the others.

- Our core modules are SmartHub, ConnectivityHub, and AutoClassifier.
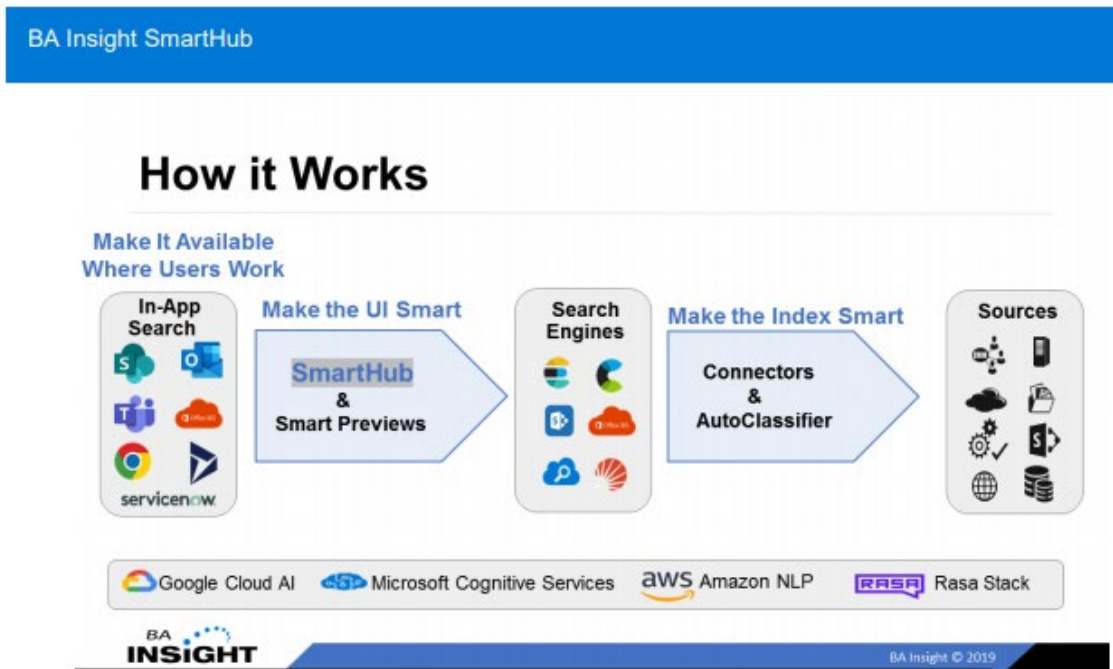
Figure 2. SmartHub overview, showing integration with ConnectivityHub and AutoClassifier.

SmartHub

SmartHub is at the heart of our AI-driven platform that modernizes enterprise search, enabling you to deliver an internet-like, personalized, and highly relevant search experience to your users. SmartHub accomplishes this by creating an integrated enterprise search environment. This environment allows organizations to use whichever search engines they like—including multiple search engines—while connecting to whichever applications and data stores an organization chooses to make available for search.

The result is that a user can enter a single query, which behind the scenes is being executed on different search engines against all required applications and data stores—with the results presented as a unified set of relevant hits.

Out of the box, SmartHub integrates with five different search engines and three different AI platforms—with more to come. SmartHub also provides immediate integration with SharePoint, Teams, ServiceNow, Salesforce, Dynamics, and Outlook which delivers access to enterprise search directly within those applications. SmartHub even allows you to plug into your own custom UI.

Easy to deploy, SmartHub sits on an IIS server and combines AI and machine learning, with an admin console and tunable user interface to greatly enhance the relevancy of search results. SmartHub query processing is enhanced by index orchestration, natural language processing, AI-driven relevancy, machine-learning bots, analytics and reporting to ensure users get the information they need without having to wade through irrelevant findings.

This is how users—who otherwise would have to search applications separately—can now launch a single search query against core applications such as Exchange, Teams, Dynamics, Salesforce, ServiceNow, SiteCore, and a world of other line of business applications.

You can find the wealth of SmartHub features on our website using [this link](#).

ConnectivityHub

ConnectivityHub is our highly scalable, purpose-built platform upon which we build indexing/ingestion connectors for business and enterprise systems to connect with your choice of Elasticsearch, Elastic Cloud, Elastic Cloud Enterprise, Amazon Elasticsearch, SharePoint Server, SharePoint Online and Solr.

Our connectors create a unified search index to provide your users with a single place to find information from all the sources they need while respecting security entitlements placed on content in those sources.

From an architectural standpoint, our connectors are responsible for pushing content into the any of the search indexes mentioned above. The connectors handle mapping of all of the security attributes associated with content to ensure that as data goes into the index, it includes the required information

that determines who has access to see it. This full fidelity security helps ensure that only people who are allowed to see things are going to get those back in their search results.

The latest list of our connectors is on our website and you can see them using this link.

When coupled with BA Insight's SmartHub, ConnectivityHub breaks down the traditional boundaries of enterprise search, providing users with policy-based access across your organization.

You can see list of ConnectivityHub features in our whitepaper using this link.

AutoClassifier

To make search work, information must be tagged. Our AutoClassifier uses a combined AI-driven and rules-based approach to automatically extract metadata from documents, databases, and other records—removing the burden of tagging from users, for both new and existing content. AutoClassifier can also generate metadata and create tags for images, videos, audio, and other non-traditional information sources. It seamlessly integrates with Natural Language Processing from Amazon, Microsoft or Google platforms to generate content summaries.

In conjunction with our ConnectivityHub, AutoClassifier performs the tagging process at indexing time, to any of the search engines we support, providing a smart index that has security mapped and content tagged. BA Insight's SmartHub can leverage the data intelligence created by AutoClassifier to enable hyper-accurate search results; personalized, predictive and proactive delivery of content to users; and a complete framework for data segmentation and analysis across all enterprise data.

AutoClassifier features can be found on our website using this link.

Transforming the Search Experience

SmartHub, ConnectivityHub, and AutoClassifier provide a transformative, AI-driven search experience to your organization and deliver a number of benefits to the IT organization including:

- Secure, modular, plug and play architecture for flexible deployments
- Flexibility to choose (and change) search engines and AI platforms
- Speed and ease of deployment
- Mobile-ready search experience

Modular Design, Plug and Play Architecture for Flexible Deployments

Customers greatly appreciate the modular design of our product portfolio. They value being able to use one, two or many components to create the solution that meets their requirements. This is different from deploying a larger, complicated platform where less than 50% of the functionality is used.

. Some examples are:

- **Extending Reach with Connectors**. Some of our customers are happy with their existing SharePoint or other search environment, but they want to integrate additional sources such as ServiceNow or Salesforce. They purchase one or more connectors to solve their problem.
- **Improving Tagging with AutoClassifier**. Some of our customers use AutoClassifier as a standalone product to automatically apply meta data to SharePoint or O365 content, and some use it with connectors to add meta data so that users can get precise results. Either way, AutoClassifier provides rich tagging capabilities—including incorporating an organization's custom taxonomies and using machine learning to enhance tagging precision.
- **Accessing Multiple Search Engines**. Some customers begin their journey with us by purchasing SmartHub to give users a more robust and user-friendly search experience with O365, Elastic, Azure, or Solr as their search engine to build a specific application or deploy enterprise-wide. Of course, when you combine SmartHub, Connectors, and AutoClassifier, you have a perfect "better together" solution. But an enduring value of BA Insight is the ability for organizations to begin their deployment on a modular basis.

Flexibility to Choose (and Change) Search Engines and AI Platforms

With technologies as dynamic and fast moving as search engines and AI, organizations shouldn't allow themselves to get locked into closed solutions.

Our portfolio supports five search engines (Azure Search, Elasticsearch, Microsoft 365, Microsoft Search, and Solr); four AI platforms (Rasa, Microsoft Cognitive Services, Google AI, and Amazon AI); and it can run in the environment of your choice (on-premise, AWS, Azure, etc).

Speed and Ease of Deployment

Our software-centric approach reduces the average implementation to less than 30 days. We *partner* with your team to help implement a solution that exceeds expectations. The concept of partnering with your team during implementation is a core part of our philosophy of making you independent of us, bringing the total cost of ownership down.

Obviously, we're still here for our customers, and we provide ongoing support, but we want organizations to have their own expertise. Our customers appreciate the autonomy and immediacy with which they can take action.

Mobile-Ready

As the whole world seems to be leaning heavily towards mobile, our search technology is designed for on-premises, cloud, and mobile deployment. Out of the box we are mobile ready, helping you to extend the power of search into the field.

User Friendly to Enhance Productivity

SmartHub provides a number of user-friendly features that enhance productivity, including features we've already noted such as Type-Ahead and use of natural language processing, AI, and machine learning that combine to provide a smart-search environment where people can find the information they need without the frustrations of typical search. Our fully customizable UI means that organizations can blend powerful SmartHub into the look and feel of their intranet environment so it appears as simply another service.

UI can also be customized to meet the exacting needs of different workgroups, as well as further customized for individual users as SmartHub AI continually works in the background to refine search based upon individual use.

Bottom Line Considerations: ROI & ROV

We began our paper with a look at what McKinsey and IDC had to say about the enormous amount of time spent on searches (with McKinsey estimating 20% of the workweek was spent searching and gathering information, and IDC placing it at nearly 30%).

Exacting ROI figures are difficult to generate because historical data of knowledge workers does not exist, and there is a variability between individuals, work habits, job types, and a world of other variables. For illustrative purposes, you could take even very conservative figures and still emerge with huge potential.

For example: If 50% of employees saved 5 just minutes a day from a more efficient search solution, and you have 1,000 employees, you come up with figures like these:

- Total time saved of 2,500 minutes per day, or about 42 hours.
- This multiplies out to 12,500 minutes per week, and approximately 600,000 minutes (10,000 hours) per year.
- Multiply that 10,000 hours by $50 (about what a $100k per year employee earns per hour) and this equates to $500,000 per year from saving just half of those 1,000 employees 5 minutes per day in their searching efforts.

- You can multiply all the above by 2,000 employees, or 10,000, and the value of even the most modest of improvements is manifold. And, of course we believe that SmartHub, ConnectivityHub, and AutoClassifier combine to provide far greater value than that 5 minute savings.

Turn to return on value (ROV) and the potential gains are even greater as you consider employee productivity, effectiveness, and job satisfaction. Giving employees a great search environment makes their lives easier, boosting performance and job satisfaction.

Some examples to consider for ROV include:

- **Increased employee satisfaction**. Workers who can readily find the information they need to do their jobs are naturally happier and more productive. Company image can only improve as workers present a more positive face to the world.
- **Increased customer satisfaction**. Customers who interact with well-informed employees receive the information they need more quickly and have a better overall customer experience.
- **Employee loyalty and commitment**. Employees who feel that their employer invests in their success exhibit a higher degree of loyalty than those who don't.
- **Employee engagement and contribution**. When employees are productive and happy, they contribute more and make the company a better place to work.
- **Decreased dependency on a few experts for information**. This enables those few experts to produce more rather than answer repetitive questions.
- **Global availability of knowledge and expertise**.

BA Insight can enhance ROI and ROV by helping you unlock a new world of search, a place where your people can harness knowledge more efficiently and more creatively to better achieve business goals.

So Good . . . You Really Need to See It to Believe It

SmartHub, ConnectivityHub, and AutoClassifier are powerful search tools on their own and provide an amazing better-together platform when combined. To fully appreciate how this can help your organization soar, we would love to provide you with a demonstration—using your own data.

To schedule a demonstration—online or in person—please give us a call at +1.339.368.7234, send an e-mail to us at sales@BAinsight.com, visit our website at www.bainsight.com, or follow us at @BAinsight.

We look forward to working with you.

About BA Insight

BA Insight is the leader in providing open, AI-driven enterprise search solutions. We help organizations achieve digital transformation by enhancing the findability of critical information, bringing internet-like search across enterprise assets with our modular, scalable software. Our approach enables organizations to leverage their preferred search engines and AI platforms to provide employees with personalized and relevant search. Our software is helping millions of users worldwide, including at customers such as BearingPoint, Blizzard Entertainment, Chevron, DLA Piper, Duke Energy, Gilead, Nvidia, and Valero.

BA Insight is a Microsoft Gold Certified Partner, a member of the Microsoft Enterprise Cloud Alliance, and an Elastic Partner.