Functional Differences Between

Northern Light SinglePoint and Microsoft SharePoint

For Strategic Research Portals

Northern Light®

Whitepaper

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DIFFERENCES BETWEEN NORTHERN LIGHT SINGLEPOINT AND MICROSOFT SHAREPOINT

Microsoft SharePoint is a ubiquitous platform in enterprises and is used for creating department and project intranet websites, storing and sharing documents, and collaboration. SharePoint is a generalized portal building application, and it supports web services in the form of webparts that can be developed to accomplish workflow tasks of any nature, including those needed for a strategic research portal. As such, the reasonable question arises from potential Northern Light SinglePoint™ clients, "Why not use SharePoint to build our own strategic research portal? After all, we already license it."

Some of the answers to that question are below.

INVESTMENT IN A RESEARCH-OPTIMIZED PORTAL AND SUPPORTING SYSTEMS

Of course, a company could decide to invest its money to develop a research portal using Microsoft SharePoint as a platform. Note that Northern Light SinglePoint is a research portal solution, ready to be deployed out-of-the-box with only the need to configure it for a specific client. Microsoft SharePoint is not a research portal solution; it is a platform for creating portals of any type, so with considerable development effort it could be used to create a research portal.

However, such a project should not be undertaken lightly. The systems involved in a market research portal include:

- User interface.

- Search forms with rich search options reflecting the unique metadata for each content set.

- Personalized home page with content selected for each user.

- Document collection systems for automated content harvesting from external sources and from high volume internal repositories.

- Document access authorization system for redirecting users to external content providers' websites for document access, automatically logging them in with individually saved or globally assigned logins.

- Search engine and search technology optimized for research applications.

- Text analytics optimized for research applications. Especially useful is the ability to tag documents automatically with rich industry and company-specific taxonomies that Northern Light provides with each SinglePoint portal.

- Machine learning-based AI-search features optimized for market research and competitive intelligence applications.

- Collaboration solutions to bookmark and tag documents, share documents and bookmarks, form groups, and indentify internal experts and collaboration partners.

- Individual search alerts system driven directly from search results.

- Public subscribeable search alerts and expert searches for browsing information according to your organizational structure and business needs (e.g., by customer, geographic region, or product line).

- Security system for enforcing content access rights at the level of individual users and user groups.

- Search alert system for user-created alerts, expert searches, and browsing using browseable topics.

- Portal administration system to grant user rights to material and to manage administrator roles, expert searches, user feedback, and content supplier information.

- User account system for maintaining user information such as logins (permitting individuals with working external market research supplier passwords to enter them directly), user roles, search alerts, home page and search form customization and content permissions.

- Reporting system for tracking site usage, queries, reports used, by user and content vendor (allowing administrators to evaluate adoption metrics and manage subscription costs).

- Maintenance and operation of the portal.

Northern Light has invested over 400 man-years in our SinglePoint platform and the Northern Light search engine that supports it. For an organization attempting to build its own research portal in SharePoint to come close to the level of functionality that we provide would require a sizable investment by the client in the portal UI, supporting systems, and content aggregation operations.

More than one client has shared estimates that they performed of the cost of building a research portal on standard platforms such as Microsoft SharePoint with anything close to the feature set we offer in SinglePoint. These estimates have been as much as $2 million for the project in the first year, and an ongoing maintenance cost for the system that is a substantial percentage of that. Development schedules have been created in these exercises that stretch out for 1-3 years. These costs and time can be completely avoided by using Northern Light SinglePoint, which can be deployed in 90 days.

It would take $2 million and two years to duplicate SinglePoint's feature set in Microsoft SharePoint.

The only means available for avoiding such an investment in a Microsoft SharePoint implementation is to de-feature the portal compared to the above list, hurting the research function, and lowering the quality of research performed by the market intelligence staff.

BREAKTHROUGH AI SEARCH FEATURES

A major advance over the past few years is the availability of machine learning-based AI search capabilities. In a research portal application, the ultimate browse-to-content feature is when the machine reads the content for the user and either summarizes it for the user or recommends a document to the user that they should care about based on their prior search behavior.

By using the machine learning algorithms for AI-assisted search that Google open-sourced, Northern Light is able to distill the important concepts in each market intelligence document in the SinglePoint portal and use that insight to profoundly change the search process. Use cases include the automated "Insights Report," the "Recommended Reading List," and MI Analyst text analytics for visualizing insights in research content.

Northern Light's machine learning features have won accolades from Northern Light clients. Consider this comment: *"We called in six vendors and had them demonstrate their artificial intelligence for market research using 3,000 of our market research reports. Northern Light's AI was head and shoulders above the rest."*

Microsoft SharePoint contains no out-of-the-box AI-based search features addressing the needs of business researchers

Two of our AI-based search features are described below: the Automated Insights Reports, and the Recommended Reading List.

AUTOMATED INSIGHTS REPORTS

By far the most radical new AI-based innovation that distinguishes Northern Light from all other suppliers is SinglePoint's new Insights Reports. What users are telling us is they do not want to manually work through a list of documents responsive to a search query no matter how good the search relevance is. *They just want the machine to tell them what they would know if they read the best documents on the search result.*

Northern Light's new Insights Reports feature uses machine learning to examine the full-text of the documents on the search result that contain the most important ideas, and then summarizes the key points in an easy-to-read report format. Each key point includes links to the underlying documents so users can drill down to read the original text if they want to learn more.

In the spirit of AI everywhere, an automated Insights Report appears on every search result every user executes.

Insights Reports represent a breakthrough in how users interact with search results. Perhaps this feature is the transformative moment in search as we know it, completely changing the search paradigm forever.

Below is an example of an automated Insights Report from syndicated research. The query was "connected cars." First shown is the traditional search result, then we show the Insights Report our AI agent wrote from the documents on the search result. (Only the first part of the report is shown.)

Imagine having a report to read highlighting the important research insights found in the research collection about your search topic before spending a lot of time downloading and scanning documents using the traditional search strategy of manually examining the results. The occasional user will be much better informed from reading the Insights Report than finding a relevant document and only reading that one. (On average, occasional users, who are 80% of the total, read only one document per search, thereby missing the insights from all the other documents on the search result.) And power users who read the Insights Report first will have a head start on figuring out where to focus their additional efforts.

RECOMMENDED READING LIST

Northern Light provides the Recommended Reading List, which is a machine learning-based recommendation engine that watches what each user downloads, builds a machine learning-powered content model for that user, and then monitors the content flow to recommend new content that addresses the same topics and ideas. In effect, each user has a personalized smart search assistant that finds content the user should care about and proactively presents it to the user. A user can rate the recommendations and the algorithm for that user will adjust to the feedback. Northern Light refers to this as:

> "You don't search for the content; the content comes and finds you."

ADVANCED TEXT ANALYTICS

Northern Light SinglePoint portals include MI Analyst™, a unique text analytics solution optimized for business research. Key in the operation of MI Analyst is the automatic tagging of every document included in the research portal with extensive taxonomies, often with thousands of entries, for industry, functional, and company-specific terms that Northern Light provides for each SinglePoint portal. For example, taxonomies typically found in a SinglePoint portal include:
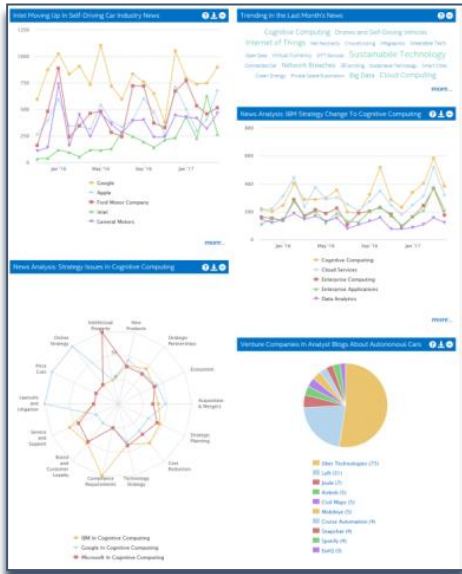
- Primary Market Research (document type such as questionnaire or final report, demographics, research techniques, research focus such as buying behavior or brand equity, etc.)

- Market Forecasting and Analysis

- Strategic Issues (new products, distribution partnerships, research collaborations, pricing changes, acquisitions, etc.)

- Technologies

- Companies and Venture-Funded Companies

- Government Agencies

- Brands (specific to a client)

- Product Categories (specific to an industry)

The automatically applied tags form a basis for analyzing research returned on search results and for navigating and filtering the search results, and can be used to generate insightful and engaging graphical analyses.

Microsoft SharePoint has nothing like MI Analyst available in it. Microsoft's enterprise search engine, FAST, can extract company names, place names, and people names, but it has no ability to identify concepts like *market share*, *pricing*, *brand loyalty*, *corporate strategies*, or the thousands of other business and technology concepts in MI Analyst.

Microsoft SharePoint contains no out-of-the-box business taxonomies or text analytics to automatically tag documents

ABILITY TO TECHNICALLY INTEGRATE WITH THIRD-PARTIES TO UPLOAD AND INDEX RESEARCH CONTENT

Even if a company did decide that it has the budget and the time to build its own research portal, or if a company decided to do a minimal job and forgo most of the functionality in SinglePoint in order to get something going in Microsoft SharePoint, it would, practically-speaking, be impossible to create a market research portal with external third-party content from some of the most important providers. Many research providers will simply not permit

their customers to download a complete copy of every report and publication in their research content universe. If they did permit this, the result would be potentially hundreds of copies of their research repositories scattered around the globe, completely out of their control.
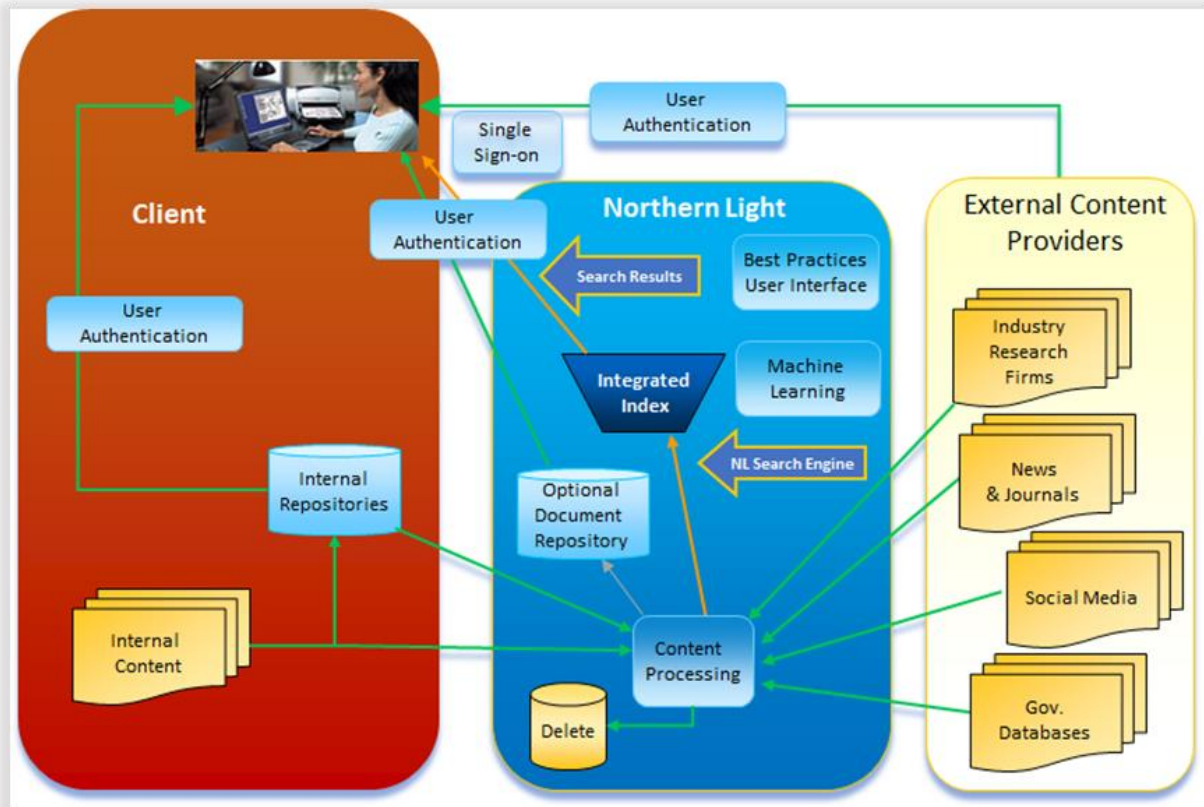
Northern Light enjoys a unique position in the content industry as the only firm permitted to index the full-text of the entire collections of scores of preeminent research providers. We are a vetted, trusted repository of research content with over a decade of experience working with the research publishers. We index over 30 million research documents for clients worth over $2 billion if each document were to be purchased at its list price. In our 25-year history, Northern Light has never lost any research material, left it exposed to the general internet, had content stolen by hackers, or delivered content to the wrong client.

Microsoft SharePoint contains no capability to integrate with third-party content

Beyond the business policies of the providers, there would be technical problems with harvesting content from many syndicated research publishers that the internal IT departments of clients are not prepared for. IT normally operates in a world in which it controls all aspects of a system. Factors such as content format, publishing schedules, meta-data conventions, platforms, and communication protocols are controlled by IT for all enterprise applications. When approaching external third-party research providers, IT has no control, nor even say, in how these things are organized by the third-parties. If a dozen sources are in the portal, IT would have to have a dozen solutions to these issues. Few IT departments are prepared culturally or technically for this environment, and few have any experience to guide them.

The ability to technically integrate with third-party research providers extends to custom-produced research typical of primary market research. Northern Light can grant restricted access to a SinglePoint portal to any research provider for the purpose of uploading content.

CONTENT LIABILITY

A typical SinglePoint market research portal has an index of 200,000 research documents licensed from outside sources, worth as much as $1,000 per document in terms of list price. This calculates out to $200 million in value. If a client chooses to create a research portal using Microsoft SharePoint that indexes this content at the client's location, the client will have to handle, store, and secure the repository. If a copy of the repository somehow found its way outside the client's network -- for example, if a careless employee placed a copy on a laptop and did not secure the laptop adequately -- the client would be liable for its misuse of this incredibly valuable content set. With SinglePoint, the client never has to handle the entire collection of research material in one concentrated file or network location. The only copies of the reports that get downloaded to the client's premises are in response to individual users requesting specific content as a result of searches conducted on the portal. By letting Northern Light handle the third-party content collections, the financial liability exposure of the client is largely eliminated.

Microsoft SharePoint stores any uploaded third-party content on company premises, making the company liable for any content losses

DOCUMENT SECURITY CONVENTIONS REFLECTING LICENSING ARRANGEMENTS

Microsoft SharePoint operates within the Microsoft enterprise computing framework. The only research portal features that are permitted in Microsoft SharePoint are those that are enabled by Microsoft for enterprise applications. In general, the security concepts in the Microsoft enterprise environment relate to servers (you are authorized or not to log into a server), application admin (you are authorized or not to change an application), application use (you are authorized or not to use an application), or network directories (you are authorized or not to access a network directory). In the area of content authorization for market research, these Microsoft conventions are inadequate.

The problem is that users of the research application have different rights to different documents based on licensing restrictions. It is commonplace for two people in the same department, who can both access the research portal, and who both have the same role (e.g., market research manager), to have different levels of access to licensed research. One person may hold a seat to Content Provider A, the other to Content Provider B.   The Microsoft enterprise computing environment has no content security concepts for dealing with this situation.

Microsoft SharePoint contains no capability to manage third-party content access rights

Even worse, some market research providers have gotten very creative in how they bucket and partition their content offerings. For example, some of the content from a provider might be on an enterprise license, but not all

of it, and some may be on a seat license. Or the content might be sold with download restrictions. For example, 1,000 copies of a set of reports may be permitted to be downloaded by users, but the 1,001st download has to be blocked. Once again, there is no concept in the Microsoft enterprise computing environment for such situations.

Therefore, research portals based on Microsoft SharePoint cannot accurately reflect the access rights for seat-based, bucketed, or other licensing arrangements. Conversely, Northern Light SinglePoint easily handles these situations as we have created security systems that reflect the nature and structure of content licensing practices and update them as research providers come up with new and novel ideas for how to sell their content.

INDEPENDENCE FROM THE IT BACKLOG

Many of Northern Light's clients have IT departments that are heavily backlogged with pending projects. Getting on the list of priority projects that get done can be very difficult and unpredictable. Also, once deployed, internally developed applications, such as a Microsoft SharePoint portal, must be supported by IT. This means that the ongoing operation of the portal requires annual budget and project priority negotiations with IT. Even seemingly small changes to a Microsoft SharePoint portal can result in substantial budget requests.

Another issue that derives from depending on the IT department has to do with capabilities and features. Companies using Microsoft SharePoint are not able to utilize portal features not supported by the company's IT department. For example, at one company we are familiar with, the market research department wanted their Microsoft SharePoint portal to have custom metadata that related to their market research documents. The IT department at the company told the market research department that as a policy the company was not going to support department-level metadata because if they did so over time the corporate data dictionary would become unmanageably large and perhaps inconsistent. The market research department had to forgo the custom metadata, which meant that users could not search the market research reports in the most effective way.

Microsoft SharePoint places the business unit's research portal squarely in the middle of the company's IT backlog for every little change

SinglePoint clients have Northern Light as their captive IT support arm.   All ongoing support and maintenance is built into the budget and no additional funds are required. Northern Light also builds in the expectation that there will be ongoing routine enhancements to the portal, and these are provided without additional budget requests. Northern Light is snappy on requested changes and can accomplish almost all client feature and content requests in three to eight weeks from the initial request

NEXUS OF RESEARCH PORTAL BEST PRACTICES

Northern Light's SinglePoint clients are recognized leaders in their fields and they are the most innovative, research-driven organizations in the world. All together, there are over 200,000 individual users of our strategic research portals at Fortune 1000 companies in functions such as market research, product marketing, competitive intelligence, sales management, purchasing, IT, technology research, and new product development.

A typical SinglePoint has five to 15 licensed external research sources, an internal primary research repository, a business news feed, and is used by 5,000 users within our client's organization. Our largest client has 25 subscription market intelligence sources, a feed of broker reports on companies and industries, a business news feed, and has 100,000 user accounts in its SinglePoint portal. Our smallest client has 50 users on a SinglePoint portal that houses mostly internal research, with only one external licensed source.

Northern Light's clients are using their SinglePoint portals to guide their corporate strategies and to invent the future that we are all going to live in.

Because of their huge scale, global operations, and research commitment, these companies are the most inventive and aggressive users of strategic research portals. As a result, Northern Light has become the nexus of best practices in research portals. Northern Light helps brainstorm new research portal ideas and is also the implementer of those ideas that get tried out in settings with real users. We see a wide range of research portal practices, can observe which practices are effective and which are not, and we distill this insight into our SinglePoint best practices user interface. This is a significant advantage for a new client because they can leverage the massive and decades-long collective experience of Northern Light's entire client community.

Microsoft SharePoint comes with no best practices advice for market research and competitive intelligence knowledge management

FOCUSED RESEARCH PORTAL SOFTWARE PROVIDER THAT EVOLVES THE TECHNOLOGY

Northern Light has a laser-like focus on strategic research portals. This makes us hyper-responsive to the evolving needs of clients that need the service we offer. By contrast, Microsoft SharePoint must serve the broad and generic needs of every portal user at every company around the world that needs a departmental portal. Microsoft has to reduce the supported features to a lowest common denominator. And Microsoft cannot recognize the unique requirements of research portal users; they have to support first and foremost the more commonplace and generic portal applications.

There are myriad examples in SinglePoint of features that Northern Light has developed over the years in response to client needs for research portal capabilities. Some of these include items highlighted in the discussion above:

- Third-party content acquisition and document authentication systems.

- Document authorization systems that support the licensing practices of research content providers.

- Text analytics for business research.

- AI-search features for market research and competitive intelligence.

And there are many others we have not discussed, such as duplicate suppression for republished news stories, proximity operators in complex Boolean Expressions, subscribeable expert searches, user personalization of the portal, and more.

Because Northern Light is focused on research portals, and because we develop and control every aspect of the technology, we evolve SinglePoint continuously in response to client needs. If you need a new feature in Microsoft SharePoint, who do you call? What chance do you have in your planning horizon (or lifetime) of seeing Microsoft change its enterprise computing platform to accommodate your specific need? With Northern Light, you can call your client program manager, make a request for a new feature in the technology, and we will make it happen for you.

Microsoft SharePoint is not supported by a team developing new features and functionality for market research and competitive intelligence

IN CONCLUSION

Northern Light SinglePoint and Microsoft SharePoint are both portal platforms that can provide a strategic research portal for market research, competitive intelligence, product management, and technology research. But there are significant differences between them:

- Using SinglePoint, companies can take advantage of a well-developed suite of portal applications and systems while avoiding the seven-figure investment required to duplicate SinglePoint's capabilities in Microsoft SharePoint.

- SinglePoint portals include advance text analytics optimized for business and technical research, whereas Microsoft SharePoint has no such capability. This is especially useful in providing extensive automated tagging of every document in the portal using provided taxonomies of business-relevant concepts.

- Microsoft SharePoint has no innate ability to integrate third-party licensed content into a research portal, while Northern Light SinglePoint can integrate content from any third-party a client needs. Also, Northern Light can facilitate third-party research consultants with the ability to upload content to a client portal without exposing the client intranet to the third parties.

- A company that hosts the entire collections of third-party content providers in concentrated directories on the enterprise network incurs significant financial liability for the safeguarding of that material. This liability is avoided if the company uses Northern Light SinglePoint because Northern Light handles all of the content from the third-party suppliers -- company employees only download one document at a time to their laptops.

- Northern Light SinglePoint has a content authorization system that reflects the nature of licensing arrangements for each specific content collection and document. Microsoft SharePoint shares the security concepts of the Microsoft enterprise computing environment, which provides security for servers, file directories, and applications, but does not support the notion that a given document might be available to some users but not to others, independent of where the document resides in the server/network/application space. Also, Northern Light is constantly evolving our transactions systems to stay in step as content vendors change the structure of their content licensing plans.

- There are significant benefits in terms of avoiding liability for misuse of licensed research to having the collaboration solution for research material be in a portal like SinglePoint. By putting the collaboration solution in a portal that can enforce content access rights, a company need not worry about documents being shared in a manner that violates the licensing rules for the documents. Microsoft SharePoint cannot perform this role.

- SinglePoint clients have a responsive and flexible partner in Northern Light for research portal maintenance and enhancements. Users of Microsoft SharePoint are dependent on their IT departments and must compete for IT priority and budget with all the other projects their companies need to have IT execute.

- Due to the scale, sophistication, and research-commitment of our clients, Northern Light is the nexus of best practices for research portals. This expertise is reflected in SinglePoint and is not available to Microsoft SharePoint users.

- Northern Light is a focused, boutique shop with total control of the SinglePoint portal technology and underlying search engine. Northern Light can extend the technology in any way required to support a client need. With Microsoft SharePoint, a company cannot reasonably expect any change to ever be made in the portal or search engine in response to that company's specific needs.

Lastly, it need not be either or. Many of Northern Light's clients use SinglePoint for content integration, search, document authorization, and for the research portal user interface, but also use Microsoft SharePoint for embedding the portal's content and search resources around the intranet in useful places like product group and departmental homepages. This permits a "best of both worlds" solution.

CONTACT INFORMATION

Priscilla Seuss
Vice President of Sales
Northern Light

One Constitution Center
Boston MA 02129

priscilla@northernlight.com
+1 617-794-8095 (mobile)