

# Five Trends that are Changing the Face of CI

By C. David Seuss

Having access to terabytes of data doesn't mean an organization has good competitive intelligence (CI). In fact, one could argue that the information explosion of the past 20-plus years – the same two decades that saw the rise of the commercial internet – has brought us to a moment in which, for many organizations, meaningful CI is a scarcer commodity than it ought to be.

This is both ironic and puzzling. After all, shouldn't more information enable the production of better competitive intelligence? Ultimately, yes – but not without help from technology to ameliorate some of the problems created by the powerful forces at work in early 21st century business.

## The “Attention Economics” Dilemma

The explosion of content in the digital age is overwhelming our human capacity to process it, making “attention” a scarce and increasingly valuable commodity in economic terms. This notion was first put forward by Nobel Prize-winning economist Herbert Simon nearly 50 years ago, who observed that “a wealth of information creates a poverty of attention.” He noted that many designers of information systems incorrectly represented their design problem as information scarcity rather than attention scarcity, and as a result they built systems that excelled at providing more and more information to people, when what was really needed were systems that excelled at filtering out unimportant or irrelevant information.

Several years ago, CEB Market Insights conducted an experiment which found that business decision-makers struggled to arrive at the correct response to a business problem when faced with multiple information sources that did not all point in the same direction. That's because synthesizing information is hard and takes time – perhaps more time than many decision-makers are willing to devote – which points to an important piece of the value that CI professionals offer: synthesizing diverse information sources and providing a coherent narrative based on that synthesis to the decision-makers. CEB also advocated better data sharing across different parts of an organization, encouraging decision-makers to actively embrace and use each other's data and making collaboration easier among different information providers in the organization.

In its 2018 information industry outlook, Outsell Inc. reported that corporate CEOs ranked attention economy-related factors – specifically, expectation of immediate answers, and the decline of reading – as the second most impactful societal trend that will affect the industry over the next 10 years. (Accessibility of data was first.) This speaks directly to Simon's point: people need help from technology to quickly sort through and make sense of all the information that technology makes accessible.


Interestingly enough, search engines – one of the radical innovations of the internet age – do the opposite. Search engines serve up overwhelming amounts of information and, at least for the leading ones on the web and in the enterprise, do almost nothing to help synthesize that information.

## Accommodating Millennials' Work Style Preferences

Young people born during the 1980s and '90s – so-called “Millennials” – are now the dominant (and soon to be majority) slice of the workforce. Today Millennials are a third of the workforce; in four years over half of the workforce will be Millennials.

As a group, Millennials have several characteristics that impact the collection, processing, and presentation of CI. Most significantly, Millennials are browsers, not searchers; they are more social in their approach to learning. A study entitled, “To Buy or Not To Buy, How Millennials Are Reshaping B2B Marketing,” publically released by IBM's Institute for Business Value, concluded that Millennials use recommendations from colleagues and experts over personal research. This has implications both for the processes and tools organizations put in place to support their growing Millennial workforce. For example, the traditional notion (and design) of a “search engine” needs to be re-conceived as something more closely approximating a “curation engine” where subject matter experts organize information on a topic for Millennials to browse.

In a 2012 study, the U.S. Chamber of Commerce said, “Millennials are more likely to multi-task, they switch their attention between media platforms 27 times per hour, and they are more likely to rely on the recommendations of colleagues than on personal research.” Also in 2012,



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a study by a professor at Rider University, Arthur Taylor, came to the conclusion that “Millennials evaluate the quality of information sources as an inverse relationship to how much time is required to obtain information from the source.” If it takes longer to get the information, Millennials conclude it is lower-quality information.

Boston Consulting Group, in a 2015 study, said that Millennials put an emphasis on speed, ease, and efficiency in all their activities. They summarized the prototypical Millennial attitude as, “I want it fast, and I want it now.”

In another 2012 study, the American Press Institute found that seven out of 10 Millennials use curated sources for subjects that might be considered practical, such as information relating to their careers. In its study, IBM said that Millennials are actually quite a bit like Baby Boomers and GenXers, at least in that they’re intensely interested in learning information about their corporate strategies, and the vast majority of them feel that their employers do a poor job at explaining their corporate strategy. Finally, in a 2016 study described in the Harvard Business Review, researchers found that Millennials value organizations that provide them with the resources and information needed to succeed on the job.

Millennials are different than Boomers and GenXers in how they approach information-gathering. For Boomers and GenXers, search was the radical change in their professional lives. They went from having to go to a corporate library and browse magazines on shelves to being able to go online and find information instantly. As a result, Boomers and GenXers are personal research-oriented and search-oriented.

For Millennials, social media was the radical innovation in their lives. Facebook started its rise around 2007 when Millennials were in their teen and young professional years, and other social platforms followed. Millennials cast a net to people and gather information, rather than relying on personal research. In a world where the amount of available information is not the problem but the synthesis of that information is, this may be the most effective strategy. The truth is that Millennials are extremely efficient information-gatherers, and they are extremely effective at acquiring relevant insights when the tools are right and designed for their cognitive style.

Millennials grab and move on; they don’t slow down to focus. Speed is the primary ingredient in successful information delivery to Millennials. Another observation from the IBM research: organized storytelling on issues of corporate strategy appeals to Millennials. They are intensely interested and engaged in the mission of the businesses that they work for, but they don’t feel that the story is being told by their employers. So someone who organizes the story with key take aways is going to connect well with Millennials.

Interestingly, executive business leaders share certain characteristics with Millennials. Both groups are in a hurry; they gather information from other people; they like to be told a story; and they like curated information. Everything an organization does in CI delivery to serve Millennials better will also serve the needs of the C-suite better.

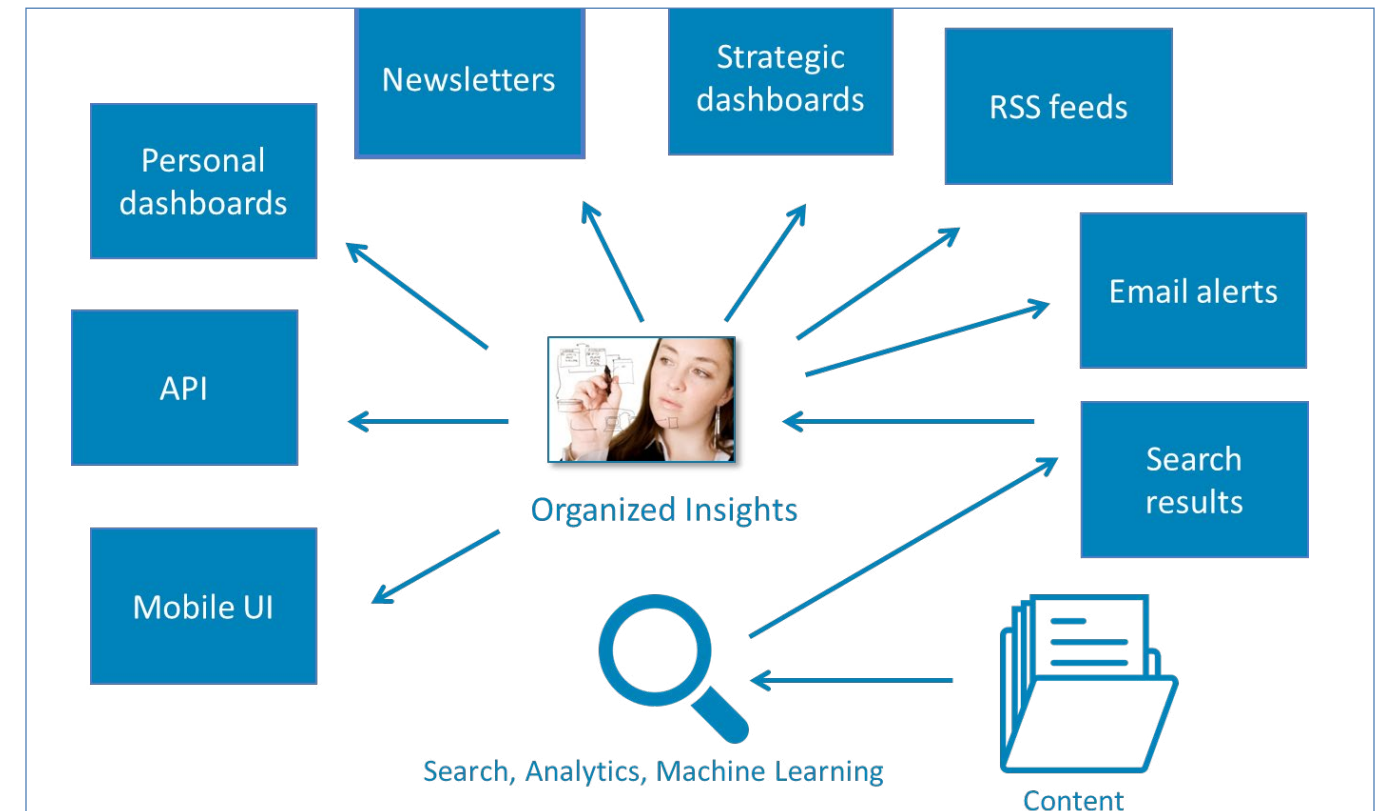
### The Mobile Oriented - Browse vs. Search World

Millennials, especially, are attached to their mobile devices. They live in a thumb-swipe world and their preferences lean toward easy, seamless access. Accordingly, they prefer a “browse-to-content” model rather than entering queries into a search engine.

If we went back in time 10 or 12 years, when laptop computers were the standard for “mobility,” search was the dominant metaphor for consuming competitive intelligence. The job of a CI portal was to aggregate the content and to apply good search intelligence that could generate meaningful search results. With search, a user types in a query and gets a search result, scans the results list, clicks through to download interesting documents, and skims those documents to find information that is useful. It’s a keyboard-based process and frankly can be laborious and time consuming.

But then everything started to change. Within a few years, smartphones and tablets running iOS and Android became ubiquitous. These mobile devices are hostile to keyboard-based processes like search. Typing a complex query with one finger is not much fun on a phone, nor is working through the search results to find and consume the insightful documents. So the net result of this is search is declining as an information-gathering strategy.

### Insight distribution ecosystem



### Strategic dashboard about the new telecom technology 5G

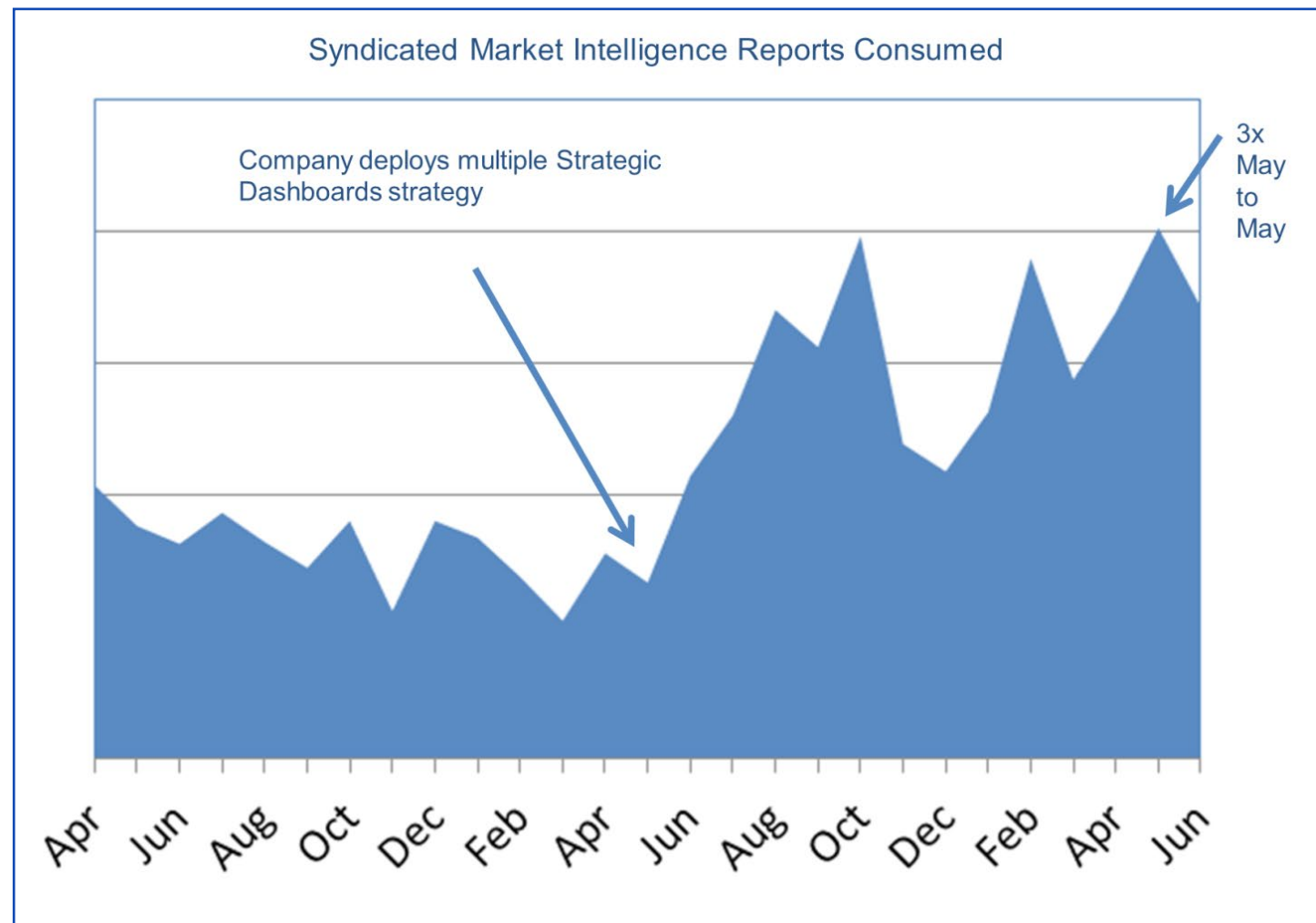
## What Is Replacing Search?

As fewer people “search,” the CI professional becomes a human curator delivering insights and curated content to audiences “browsing” the content most relevant to their interests. There are various mechanisms that deliver such content: email alerts, RSS feeds, strategic dashboards, newsletters, personal dashboards, APIs, and mobile UIs. Together these comprise an “insight distribution ecosystem”.

Of these various insight distribution mechanisms, the strategic dashboard is becoming the most popular. Strategic dashboards organize information around a topic to present insights to the users. On the previous page there is an example of a strategic dashboard about the new telecom technology 5G. All of the relevant information is curated in terms of topical content feeds

on market research, news, and social media, as well as PowerPoint presentations (that tell the story in an easy to consume way), analytics, and videos. All a user has to do is peruse the page and he or she will get a good overview of what the organization knows about 5G.

The effectiveness of dashboards can be measured through competitive intelligence document consumption and the number of users on the CI system. (Ideally, an organization would measure the number of better decisions that are made based on that intelligence, but that’s hard to do other than with anecdotes.) It’s not unusual to see anywhere from a 3X to 10X increase in research usage when dashboards are deployed, which is good for the business as a whole and for the CI department. Consider this real world example:



## Automated insight report

The screenshot displays an 'Automated insight report' interface. On the left, a 'Search Results' sidebar shows 237 results for 'new diabetes treatment'. The main content area, titled 'INSIGHTS FROM YOUR SEARCH', displays a list of search results. The top result is a snippet from 'Hindu Business Line (India)' dated 02/12/2018 04:40, titled 'Sanofi launches new diabetes treatment insulin in India'. The snippet includes a quote from Sanofi India Managing Director N Rajaram and a link to the full article. Below this, another result from 'Labiotech.eu' dated 02/12/2018 05:10 is shown, titled 'Healthcare-Biotech Partnership Pledges to Take its Type 2 Diabetes Treatment Worldwide'. This snippet describes a partnership between Swiss pharma Roivant and French biotech Poxel for the development of imeglimin. The interface includes 'Copy' and 'Close' buttons at the bottom right of the snippet view.

Ultimately, what makes the CI system work is tight integration of content resources, search, and the various tools for distributing insights. Content to be aggregated includes news, authoritative industry research reports, social media, government databases, and other sources particular to each industry. Then, all the content must be coordinated and leveraged to the maximum with a minimum of human labor. So, for example, there can be a one-to-one correspondence between strategic dashboards and newsletters on the same topics. You

can use the same expert searches to populate regions automatically of both the dashboard and the newsletter, and the same curators who have subject matter expertise on a given topic can produce the dashboard and the newsletter.

Interestingly, the mobile-friendly browse-to-content approach is attractive to many professionals of all ages, not just Millennials. For example, a senior vice president at a pharmaceutical company insisted on receiving a

CI newsletter that she could read on her iPhone held in portrait mode, combining mobile and browse-to-content. Millennials have led the way to a new way of gathering information for business analysis, which has proven to be attractive across the board to all groups.

Even power users who are facile with search like browse-to-content solutions. They appreciate having information organized and presented to them. They can jump in, get their overview from the dashboard or the newsletter and then drill into a topic if they want to.

Of course there still is a set of users that are search-centric. This includes the CI staff, market research staff, and power users of the organization's CI portal (typically technology developers and product development people). So excellent search remains an important capability; it is the foundation of content curation for the non-search-oriented people.

## Emergence of “Machine Learning” in CI

Applying machine learning to enterprise applications became feasible in 2016 when Google open-sourced its key machine learning algorithms. Machine learning technology is beginning to play a role in CI, as some tasks historically performed by CI professionals can now be leveraged by computers. For example, with machine learning, the computer can watch what a user is interested in, what they download, what they share, what they've bookmarked for themselves or saved for themselves, and what they commented on. Knowing their interests, machine learning algorithms can recommend content to the user. In effect, relevant content will come and find you rather than you having to look for it.

Machine learning also can enable auto summarization of search results. Instead of a user manually scrolling through a search result list and individual documents to glean answers to a research question, the search engine reads all of the documents and summarizes the significance of the search result. The user can express an interest in knowing more about a topic – what used to be called a “search query” – and then the system delivers a report rather than a search result. Ultimately, such a capability will make search as we've known it unnecessary. The goal is to have the machine do the search and then tell the user what it finds and what the user should know.

This is not a fantasy. Consider the automated search report on “new diabetes treatments” (that appears on page 29) run against seven days of news. The intelligent application finds the key points in the documents on the search result and then writes the report, quoting with attribution. Links to the documents are provided for more in-depth drill-down by users interested in a particular point.

A sad but true statistic is that users download only one document on average from each search query. That means they miss the insights from all the other documents on the search results page. With automated insight reports like the one on the previous page, all the documents on the search results page are analyzed by the machine and the key insights from the search result as a whole are identified and presented to the user. This means the user now has access to all of the insights, not just a tiny fraction of them.

## Implications of Smaller Research Staffs

From our work over two decades with the CI staff and related functions at large global enterprises, it is evident that far fewer information professionals (the trained CI experts) are employed by corporations today than were 20 years ago, and those that remain support many more employees than before. Even the largest, research-driven enterprises have only a handful of people on the dedicated research staff.

The CI staff that remains must work smarter and more efficiently to provide curated insights to their wider audiences. It also behooves them to practice at the top of their license, delivering maximum value by focusing on analyzing information vs. finding information, as leading developer of competitive theory and practice Dr. Ben Gilad argues in his recent article “The 8 most positive trends in Competitive Intelligence in 2017”.

The key is the ability to deliver self-service research capabilities for the vast majority of an organization's employees who are not skilled researchers, and who want to browse to content across many channels. The machine learning capabilities described above will help to enable that, as will the various delivery mechanisms that comprise an enterprise “insight distribution ecosystem”. With machine learning that automatically extracts the key insights in a browseable report, even

search becomes a pure browse-to-insight experience. Northern Light has seen the impact of these various social and technological forces on how large enterprises approach their market research and competitive intelligence infrastructure. Increasingly, they are relying on advanced technology to help them deliver insights and curated information to their internal constituencies.

As the author of the IBM Institute for Business Value's paper wrote:

As decisions become more multifaceted and answers are needed more quickly, having ready access to meaningful data insights is essential for today's decision makers. Millennials, especially, who are accustomed to getting all sorts of data with just a tap of their mobile device, will have little patience with organizations that can't immediately provide the information they seek. The need for analytics capabilities and speed will only increase as more Millennials enter roles where they have sway over key business decisions.



### ABOUT THE AUTHOR

**C. David Seuss** is CEO of Northern Light, which provides machine learning-powered knowledge management platforms for market research and competitive intelligence. Mr. Seuss joined Northern Light in 1996,

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