

## **Strategic information management: Accessing focused, connected, actionable intelligence from primary and secondary sources**

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### **Abstract**

*Information has pervaded our lives. It is a critical asset and plays an integral role in our job functions and decision making processes. It comes across our desks in paper form, through our computers as email, shared documents and discussion groups, and in person through conversations. However, for many its simply too much of a good thing. There is no effective and efficient way to filter through it all to get at what is important and relevant. To add to the complexity, corporate culture can set up impediments to information sharing and accessibility.*

*This report reflects the results of research conducted with representatives within the oil and gas industry. Four areas were discussed with participants: 1) key information sources used by participants, 2) effects of corporate culture, 3) main information challenges faced by participants, and 4) solutions currently in place. Results point to several trends: employees are faced with information overload; companies are struggling with finding a balance in their information sharing culture; employees continue to face a number of information challenges which they believe, if addressed, could greatly influence their daily work-related functions; and current tools are not adequately addressing information needs.*

*Finally, this report examines how Coemergence's ACIS™ can be utilized as a tool to address many of the challenges discussed.*

### **1. Introduction**

*We are drowning in information but starved for knowledge.*

- John Naisbitt, *Megatrends*, 1982

*What enables the wise sovereign and the good general to strike and conquer, and achieve things beyond the reach of ordinary men, is the intelligence that is gathered before the battle even begins.*

- *The Art of War*, Sun Tzu

Although centuries apart in time, Sun Tzu and Naisbitt's statements bring to light a compelling issue in today's high speed, information heavy business environment—the need to effectively manage strategic information to ultimately gain competitive advantage.

It is a fact that individuals, and thus companies, are faced with an overwhelming amount of information from multiple sources—conversations, news feeds, emails, databases, reports, journals, tradeshow, etc. They must address the increasing challenge of finding an efficient way to analyze all this information and translate it into actionable intelligence. Competitive advantage is gained by anyone who can be the first to retrieve valuable knowledge. The old saying “the early bird gets the worm” applies.

All companies today recognize “information” as a critical asset. But public information is not sufficient—in today's world, all companies, large and small, have virtually the same access to it. According to Craig Fleisher, a leading competitive intelligence author, “Competitive intelligence theorists have long postulated that somewhere around 80 percent or more of what a company needs to know about its competition and competitive marketplace is already present somewhere in the organization.”

This key information is found everywhere in the company, often in the form of conversations,

news, and insights. When trying to make sense of it with current tools, a host of technical and cultural problems arise. Most of it is not recorded; it is “primary intelligence”—sourced from people—so data mining tools and many existing knowledge management tools have limited benefit.

Recognizing what’s useful out of the mass of information, to which we are all subject, is often not obvious. Getting this information into a central system is difficult since people already feel overloaded, and are sensitive both about sharing their information and contributing it into a “black hole.” Finally, even if recorded and made available, the information is too “fuzzy” to effectively search, understand, and make use of. So while it is not difficult to realize the potential value of this tacit information, the process of effectively recognizing it, capturing it, putting it into context, analyzing it, and making it available to those who need it has so far proven daunting for most companies to implement.

## 2. Method

Coemergence investigated questions regarding the collection, organization and dissemination of knowledge, information and data within companies. Using a semi-structured interview approach, we asked people about their communication practices, concentrating on information/knowledge gathering and sharing strategies.

Our methodology was intended to provide a general reflection of the challenges and concerns faced by professionals regularly engaged in the collection, analysis and dissemination of strategic information. Due to time constraints or the direction in which discussions followed, some areas were not covered with all of the participants. Our results and conclusions are therefore illustrative of general trends in the industry.

We interviewed a total of thirty people working in the top thirty global oil and gas companies. Individuals represented upstream, midstream, and downstream business units in the areas of

business development, strategic planning, marketing, engineering, information technology and asset management.

Discussions explored the need for communicating across geographically dispersed teams as well as within close knit groups. All participants had extensive experience with multiple sources of information and multiple methods of information dissemination such as email, contact management tools, databases, news feeds, consultants, etc.

Building on the findings of our study, we present a tool that aids in the collection, organization and dissemination of strategic information from both primary and secondary sources.

## 3. Results

The general areas examined were: 1) key information sources, 2) culture, 3) main information challenges, and 4) solutions. The discussion of our findings is structured around these four areas.

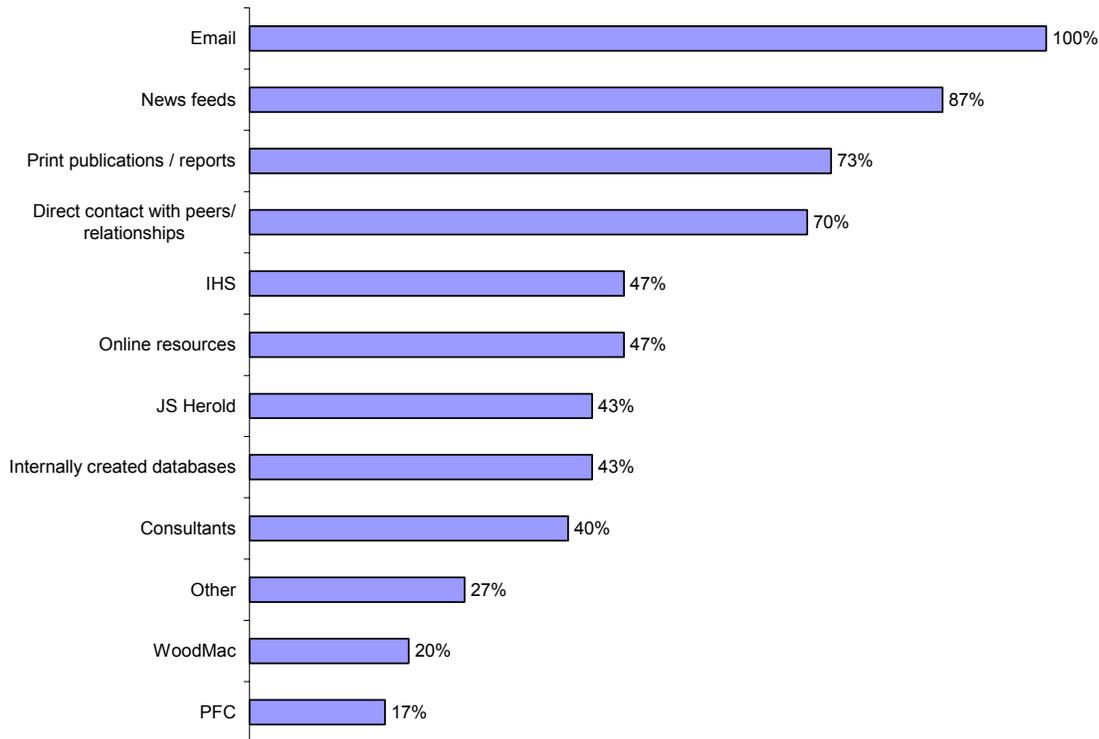
### 3.1 Key information sources

Participants were asked where and how they received information. All participants were aware of multiple information sources, many of which played an integral role in their daily work-related functions. (Figure 1)

Respondents indicated that by far the most useful information comes from conversations with peers, both inside and outside their organizations. Building up personal relationships over time develops trust and free sharing of information between the parties. Several individuals in fairly new positions and locales noted that lack of peer relationships was a tremendous road block, high on their list of priorities to overcome.

Respondents cited email as the key source for incoming and outgoing information. Many stated that email had become totally integrated into the way they do business in processes such

**Figure 1 : Key Information Sources**



as assignment and monitoring of tasks, sharing of documents, sending comments, providing feedback and engaging in conversation.

It is evident from the responses that email brings both a positive and a negative aspect to information flow. On the positive side, it provides an extremely easy way to converse and share resources and knowledge among multiple parties. On the negative side, it can result in information overload—in the case where individuals receive too many emails to properly sort and filter all the information contained within them.

Many companies subscribe to news feed services or engage in the scanning of news headlines/news stories on a daily basis. Non-news related web sites (i.e. peer company web sites) are also searched for information. Participants reported that it is often cumbersome and time-consuming to ultimately access information at the granular level they seek. Search engines and filtering services only go so

far to fathom out stories of interest—“there is always ‘garbage’ you just don’t want to see”. Corporate intranets may include news stories of interest to the company as a whole, but the news is not detailed or specific enough to meet individual or group needs.

Reports, filings, publications and journals, together with consultant services, provide companies with the added resources necessary to collect and validate information required to make informed decisions. Widely-used, publicly accessible sources include industry databases like IHS Energy, JS Herold, Wood MacKenzie and PFC.

All sample companies had internally created databases to store data on their own properties. In combination with the publicly sourced databases, this internal information helps create a more complete picture of the business environment. Participants noted that the third party database information is disconnected from each other and from their internal databases,

requiring a time consuming manual process of entering each data source separately to access information, and then compiling it into useable reports or profiles.

### 3.2 Culture

Every organization has its own unique culture or value set. In most organizations the culture is typically created unconsciously, based on the values of the top management or the founders of an organization. Our research focused on how corporate culture might affect information flow throughout a company.

Figure 2 shows participant’s responses regarding their view of current corporate culture. Where a “Knowledge is Power” culture was indicated, respondents cited top-down management or a siloed corporate structure. In other cases sharing was mandated by upper management, and

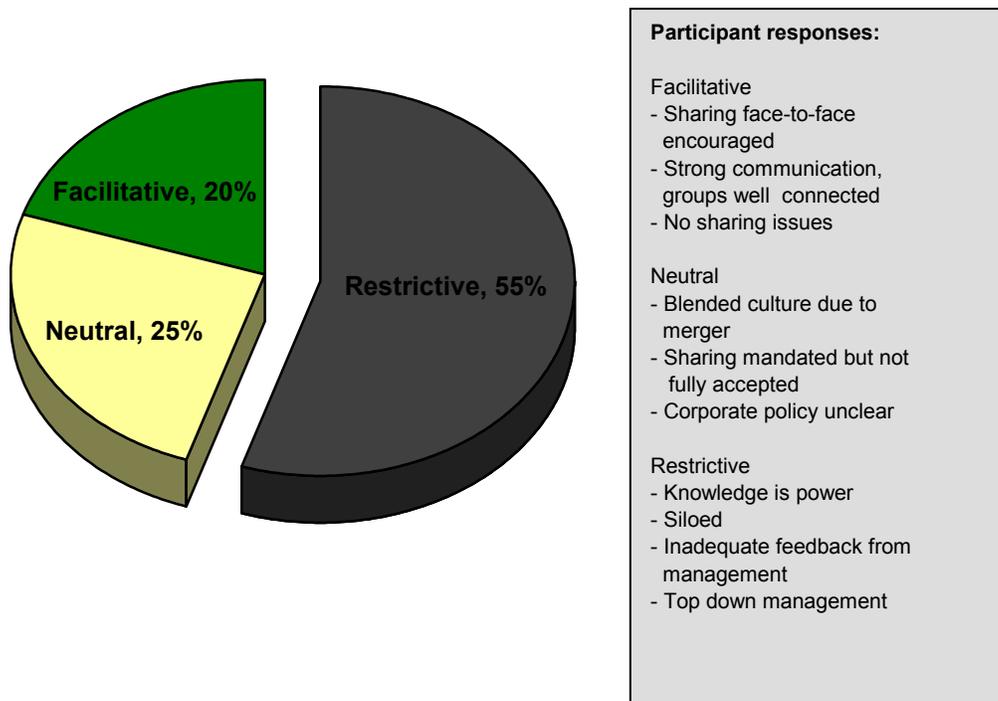
solutions put in place to assist staff in the sharing process.

Several respondents had experienced a recent company merger. Issues resulting from a blending of corporate cultures was noted. Respondents stated they often did not know where to obtain information or with whom to share it. In one case the two companies had opposite views on the sharing of information and overall corporate policy was unclear.

Companies walk a fine line in situations where being privy to information before your competition could potentially provide a key competitive advantage–To share or not to share?

Do you share information and risk your knowledge will become public too soon? Do you hold tight to your knowledge with the risk someone else in the company will miss out on a big opportunity?

Figure 2 - Culture



Participants indicated that their best source of information originated from direct peer relationships. It should therefore come as no surprise that face-to-face sharing of information is often encouraged in companies. Chats by the water cooler, over coffee, at tradeshows, etc., all provide tidbits of information individuals use to create a clearer picture of their business environment.

### 3.3 Main information challenges

Responses from our sample pointed to eleven information challenges which participants believed, if remedied, could greatly improve business results and/or make individual's jobs more effective and efficient. In order of the frequency with which they were cited:

- No method to collect, synthesize and distribute collective corporate knowledge
- No way to get past the clutter, find patterns and then be alerted to opportunities
- No summary/history of research or information

- Inadequately focused, relevant reports / search results
- Lack of access to information before it goes public
- Lack of integration of industry related databases
- Lack of easy access to information
- Need for accurate and valid information
- Need for a better way to sort the news / link it to relevant targets
- Security of information
- Remoteness - lack of personal contacts /geographically dispersed

Individuals often provided more than one challenge affecting the flow and use of information in their daily job duties. (Figure 3, 4)

Figure 3 - Main information challenges

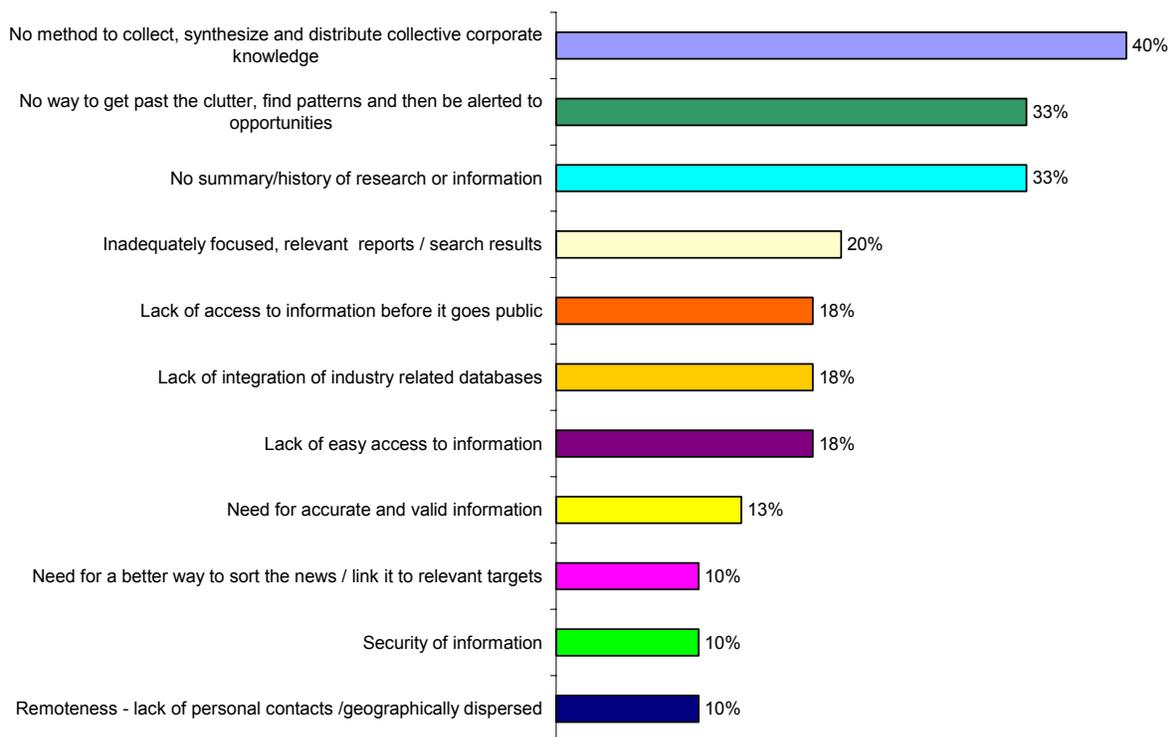
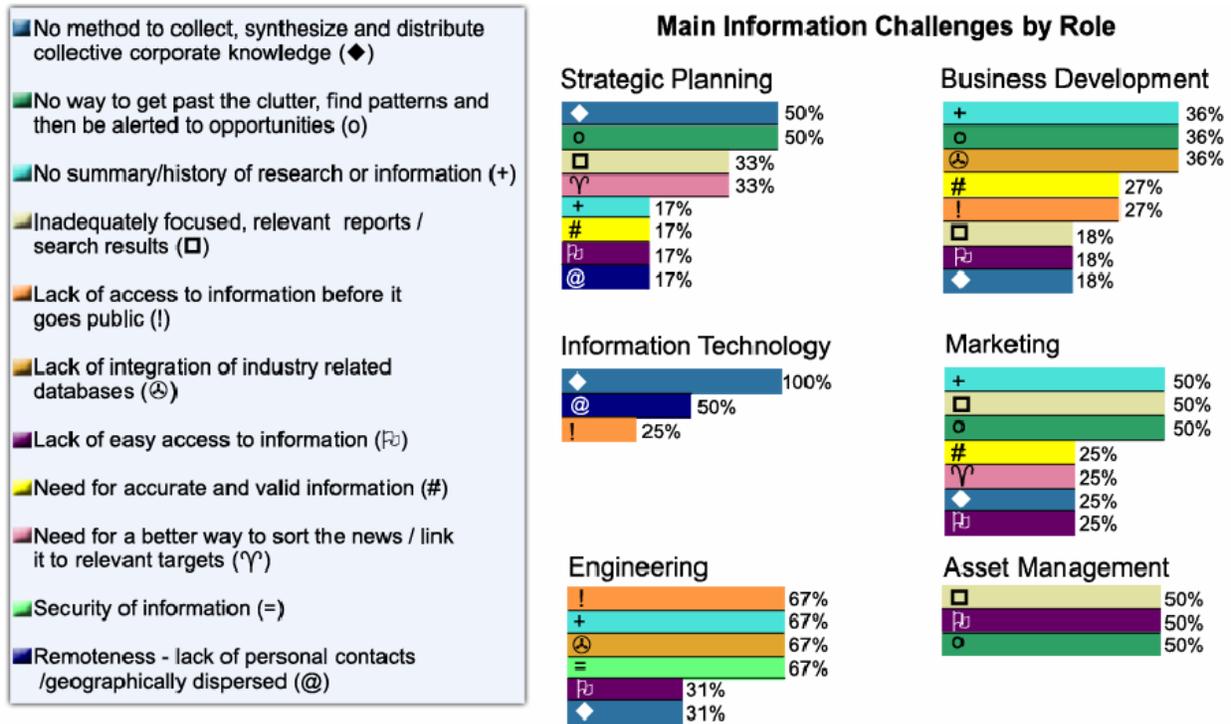


Figure 4



Eleven participants reported that their company had no means to collect, synthesize and distribute the collective knowledge of employees across project teams or across the company as a whole. One general problem was finding the knowledge—determining who has expertise or vital information. Often someone will have information but not be aware that someone else could make use of it.

People are bombarded with a plethora of information from both electronic and personal sources. Most people would like to have a system where they only see the information they want or need at the current time—the rest is just noise. There is also a desire for some type of automation which would provide alerts of new information relevant to their current field of view. One person noted that what is considered ‘noise’ to one individual may actually be a vital piece of information to someone else.

The desire to get past the information clutter is also reflected in the need to have focused, relevant reports and information search results, and the need to find a better way to sort news

and link it to relevant items of interest. This encompasses Internet searching, as well as searching of company databases and internal knowledge pools. People want a better way to sort through all the pieces to find patterns which more effectively bring the pieces of the puzzle together.

For some respondents, once information has been analyzed or research completed, there is no effective, organized way to maintain a history of the collected information for future use. When information is requested, there is often a lot of scrambling to locate and organize. Information tends to rest in an individual’s head or on their PC hard-drives, often it is scattered here and there throughout the company and is not easily accessible. The challenge is getting the right information to the people who need it, when they need it.

The sooner people have access to vital information the better. Getting information before it enters the public realm does not happen often, but when it does, participants report that it can provide tremendous strategic advantage.

Most companies do not have a method to capture and disseminate this non-public information.

There is a need to validate and keep information secure. Accuracy is imperative when working towards strategic, often high risk, decisions. Information is sensitive and is often held closely within groups. Security of sensitive information is vital but sometimes hinders the information-sharing process.

There is little integration among databases, whether they be publicly available industry databases or ones built in-house. Often the data contained in one database conflicts with the data in another. Each source must be accessed and cross referenced separately, a process that many respondents said is very time-consuming.

A final information challenge of note is that which arises when groups are in remote locations or are working in teams that are geographically dispersed. Respondents reported feeling that they were missing information because they couldn't have face-to-face meetings and that it was sometimes difficult to obtain information because of competing priorities in different locations.

### 3.4 Solutions

The results of the semi-structured interviews highlight many of the limitations in current tools and methods used for gathering and managing strategic information from both primary and secondary sources. Participants desire solutions which will address their key information challenges. Existing solutions (Figure 5) are evolving and vendors are recognizing the need to address some of these issues. It is apparent that some of the needs are not currently being addressed. (Note: 20 percent of participants did not provide information on current solutions.)

Figure 5 - Solutions currently in use as provided by respondents

eRoom
Factiva
Gathering information manually
GlobalShare
Internally created collaboration suite
KnowledgeWorks
LotusNotes
Outlook
Peak
PowerPoint for reports
SharePoint

### 4. Strategic information management system

Our research has confirmed the need for more robust and useful strategic information management tools. We plan to use this information to help shape further developments of our own product, ACIS™—an integrated software solution that gathers and weaves together competitive intelligence, internal expertise, industry data and external information to yield unprecedented clarity and insights into opportunities and threats in business environments.

ACIS™ provides a secure, centralized portal to share, track, and organize real-time intelligence, pertinent research, and respective analysis. It consolidates data from varied media and resources into a single “smart” portal from which a user can filter information to quickly grasp a more complete picture on specified criteria and selected targets. A report generation feature facilitates communications with key decision makers and enables analysts to visualize patterns emerging from the information.

The system is structured to capture useful signals as information becomes available on the local (internal to the company, non-public) level; to put them into context, making their meaning clear; and to get the emerging picture to the appropriate people for action. The key to doing this effectively is to seamlessly combine what

are traditionally very different approaches to information—the “soft” approach to recognizing early signals of change, gathering rumors and gossip, and encouraging collaboration, and the “hard” approach of technical database management.

ACIS™ allows both individual users, functional groups, divisions and the company as a whole to

- be significantly more effective and efficient in their current work around growth at all levels, and
- develop a competitive advantage by recognizing the subtle, often overlooked signals that management and staff in all locations are constantly encountering, and that can be the key to significant and timely action half a world away.

The future direction of the ACIS™ solution points to increased integration with office productivity software (i.e. Microsoft Office suite) and email. Providing tools within ACIS™ to allow the system to be used as a Personal Knowledge Management tool is also being explored as a way to increase usage and buy-in by users across projects teams and entire companies.

## 5. Conclusion

In conclusion, empirical data has been presented regarding the informational environment of representative employees within the oil and gas industry. Our results reveal some general trends within the industry:

### 1. Information overload:

Employees face “information overload”, as a myriad of both relevant and irrelevant information comes to them from multiple sources. Both manual and technical tools are being employed to face this challenge without satisfactorily alleviating the burden.

### 2. Other information challenges:

Employees reported 11 information challenges which negatively impact on their

daily job functions. The mass of information needs to be accessible, filtered for individual use, valid and accurate. Its integrity and security must be kept in tact. It must be integrated to create a more complete picture and the corporate mindshare must be tapped to unlock hidden non-public knowledge which could provide competitive advantage.

### 3. Cultural issues:

The question remains “to share or not to share”? The spectrum ranges from facilitating rich communication to hindering information sharing, companies must find the way to get the right information to the right people at the right time.

### 4. Solutions/tools currently in place:

Current solutions are not adequately addressing the information challenges faced by employees. Current software programs and methodologies model workflow around answering specific questions. All are helpful but partial; they are generic rather than industry- and function-specific and still fall short of enabling a significant advance in leveraging internal information into real opportunity and address the information challenges faced by employees.

Coordinating access to and use of public-source and internal information together requires an innovative approach that makes it easy and rewarding for many individuals to recognize information and contribute it within their existing work flow, and that provides the context that makes the implications for action evident. In describing ACIS™ we have presented a system that addresses some of the issues voiced, allowing access to focused, connected, actionable intelligence from both primary and secondary sources.

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## About Coemergence

*Coemergence Inc. brings clarity to strategic business information in its enterprise software solutions.*

*Coemergence solutions help companies realize opportunities they would otherwise have missed and get the right people ready to act at the right time. Coemergence has developed ACIS™, an intelligent portal for strategic functions across an organization. The company's unique approach, Opportunity Discovery and Action Support™, enables early discovery of opportunities and threats, and then facilitates immediate and continuing action.*

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