

# Information Competency: Survival in the Global Economy



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**The need for information has never been higher. An enormous amount of pressure is converging on organizations and requiring them to document, report, audit, share and retain information in ways they've never had to before. Consider the escalating market forces and economic volatility that shape today's information requirements:**

- **Shareholder and social pressures** - Society and shareholders alike are pushing many companies in new directions by requiring them to spend more time and resources on finding ways to address worker health and product safety issues, reduce their impact on the environment and consume fewer natural resources.
- **Globalization and regulatory complexity** - As companies grapple with global markets and supply chains, they must deal with a myriad of challenges, from greater manufacturing complexity to increasing competition and a larger array of regional regulations that impact them.

- **Changing workforce and global talent** - An aging workforce combined with attrition resulting from downsizing and the loss of talent—such as foreign national employees who are no longer eligible for visas—is creating an information vacuum as people with irreplaceable knowledge walk out companies' doors.
- **Economic volatility and market instability** - Even with an economic crisis and geo-political threats dominating headlines, along with an increasingly fickle customer base and shrinking product lifecycles, companies are still under pressure to perform.

Information continues to be at the core of the analysis, modeling and forecasting activities organizations use to fuel their decision making, set business direction and align the workforce. However, the demand for information is growing and the volume being generated is increasing. At the same time, information is becoming more complex. Today, organizations must understand and track in minute detail the chemicals, materials, designs, processes and operations used to build and deliver their products. The same level of detail is needed from outside partners, suppliers and customers, as well as their customers and their suppliers.

Now more than ever, companies need to establish information management as a core competency.

This white paper will discuss:

- Why information is no longer a tactical necessity but a strategic requirement.
- The forces organizations face to show evidence of responsible corporate conduct and how growing pressure to reduce our impact on the planet and improve human health and safety eventually transform into regulatory legislation and formalized industry requirements such as codes, standards and specifications.
- How the combination of intense social pressure and regulatory enforcement have created a new benchmark for the information that both internal and external business partners need to create, share, manage, retain and use.
- How organizations worldwide are mitigating business risk and optimize performance.
- The steps organizations can take to introduce information as a core competency.

### **Responsible Corporate Conduct Is No Longer Optional**

The demand for information often starts outside the business world, with society itself, which has its own ideas of how responsible companies should operate. An example of this is the environmental movement. Early on, it was thought of solely as the cause of tree huggers; at that stage, a green reputation was a nice-to-have versus a must-have on the business radar. But now, the terms green, social responsibility and sustainability have become synonymous with the evolving measurements that are used by society to judge what it deems as acceptable corporate conduct. A study by Aberdeen Group found that much of the emphasis on green was in fact driven by social expectations: Nearly 40 percent of those surveyed said that their development of green products was the result of corporate social responsibility initiatives.<sup>1</sup>

These pressures have forced companies out of their comfort zones. However, responsible corporate conduct is no longer optional or to be considered as a tactic to gain competitive differentiation. As Aberdeen Group writes, “Wonder if designing green products truly has a prominent place in the executive minds of manufacturers? Then consider this fact. Fully 96 percent of all companies surveyed are currently pursuing at least one design for green strategy.”<sup>2</sup> The movement has transitioned from nice-to-have to become a mainstream ideology for society—and for businesses. Companies must incorporate environmental responsibility into their products, processes and people or risk the consequences of being left behind.

### **Regulatory Compliance Has Become a Prerequisite to Market Entry**

As society embraces the green movement, it has been backed by governments, which have acted as the voice of the people by formalizing concerns into legislation that is designed to accelerate industry adoption. This has resulted in a growing number of regulations, such as the Restriction of Hazardous Substances directive (RoHS) and the Registration, Evaluation, Authorisation and Restriction of Chemicals regulation (REACH) in the European Union (EU) and the Toxic Substances Control Act in the United States. Most of these regulations have similar goals—reducing hazardous substances and waste—but since they are developed by different government bodies, they offer different parameters and guidelines. For example, China is developing its own version of RoHS, while 18 states in the United States have adopted different types of e-waste laws. As a result, depending on where they do business, companies often have to comply with multiple, overlapping regulations. According to one survey, 26 percent of manufacturers said they had to comply with four or more green regulations.<sup>3</sup>

While regulations offer their own information management challenges, they are only the beginning. With regulations comes a need for information to both enable and prove compliance. For example, in the United States, companies are required to provide material safety data sheets for all of the hazardous substances their employees might be exposed to in the workplace. This means companies need to be able to track all of the chemicals they use throughout their operations, including often overlooked chemicals such as those found in cleaning supplies. Depending on the company and its procurement processes, tracking all these substances can be difficult and time-consuming.

In the EU, the situation is even more challenging. Companies are finding that if they have not jumped through the hoops imposed by REACH, they may be at risk of shutting their doors, or at least curtailing some of their operations. Inspectors now are checking to see whether substances that are manufactured in the EU, are used in manufacturing processes conducted in the EU or are present in or are emitted by products sold in the EU are registered or preregistered with the European Chemicals Agency. (Registration requires the submission of a technical dossier that relays information such as the potential hazard the substance offers. This, in turn, requires extensive testing, which can take years. As a work-around, REACH did offer a preregistration option, through which the manufacturers of substances already in use could indicate their intention to test the substance and register it.) If substances are not preregistered or registered, companies will not be allowed to use them. It's a situation known as "no data, no market."

### **The Risks Are Real**

Companies that don't manage information effectively in the face of stringent regulations and social pressures await serious consequences. Here are a couple examples of companies that have paid the price for a lack of key information:

- A Japanese company had more than one million of its products seized by the government after it was found that the system cables contained higher levels of cadmium than allowed under EU law. Cost to the company: \$160 million
- A U.S. toy company had to recall more than one million of its toys when it was found that the paint on the products, which were intended for children, contained excessive amounts of lead. Cost to the company: \$25 million

### **The Elevated Role of Industry Standards, Specifications, Associations and Organizations**

Organizations don't just have to deal with regulations. Codes, standards, technical specifications, recommended guidelines and data reporting requirements also have a significant impact on a company's operations. Companies may use thousands, if not tens of thousands, of these types of standards to design and manufacture their products, ensure quality and worker safety and minimize their impact on the environment. Because of this, they need to make sure that the standards that affect them are available to the employees that need them. And since standards change frequently, companies also have to ensure that all employees are using the same version of each standard. Clearly, the use of standards adds another level of complexity to companies' already elaborate information management requirements.

However, while companies have long relied on standards and specifications to speed product development, reduce production costs and increase customer satisfaction, regulatory pressures are making careful management of standards increasingly important. That's because as the line blurs between society's, the government's and industry's take on specific issues, subsequent collaboration and communication methods proliferate. Here are just a few examples of the guidelines organizations must consider in response to green pressures:

- **The Guide to Greener Electronics** - Developed by Greenpeace, a non-governmental organization (NGO), the guide reflects the impact society continues to have on the business world. It outlines steps that Greenpeace believes electronics companies should undertake in order to reduce substances the organization deems as hazardous.

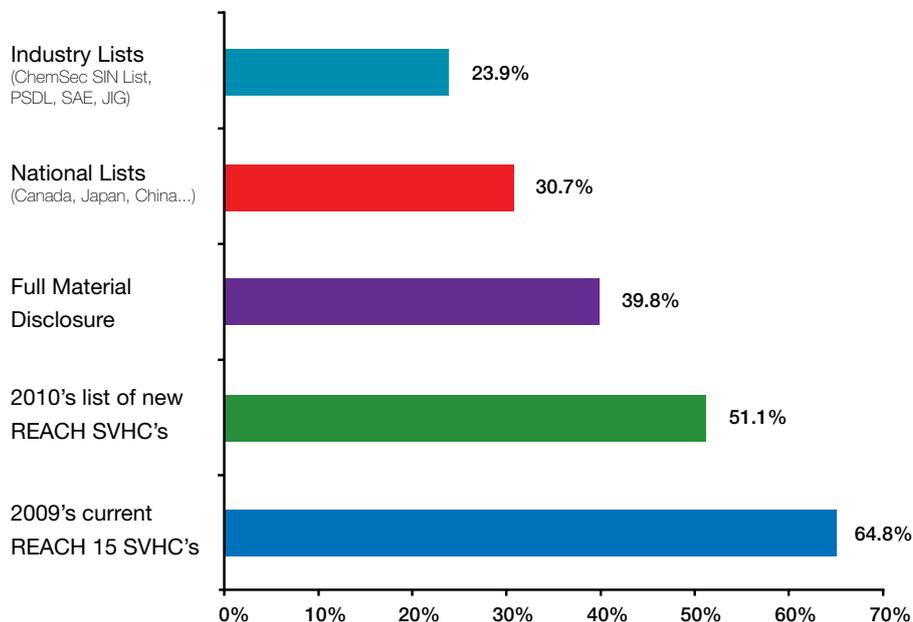
- **The Joint Industry Guide and IPC 1752** -

Both are material declaration standards developed by leading industry groups that standardize the means by which electronics industry stakeholders communicate information to help companies respond to environmental regulations like RoHS.

- **The Priority Declarable Substances List (PDSL)** -

The PDSL was created by the Aerospace and Defence Industries Association of Europe to classify a list of hazardous chemicals to support both REACH and suspected future restrictions. Among its primary concerns are awareness and preparation for issues associated with continuity of supply as chemicals change throughout the extremely long lifecycle of the industry's products.

### What substances will your company be monitoring or asking suppliers or stakeholders to monitor in the next 12 months?



During a webcast conducted by *Supply & Demand Chain Executive* magazine, audience members were asked which substances their companies would be monitoring or asking suppliers or stakeholders to monitor in the next 12 months. The responses illustrate the various guidelines, standards and regulations that shape companies' information-gathering needs—and show how many companies are affected by or have chosen to adopt more than one set of guidelines or requirements.

Source: Supply & Demand Chain Executive web conference. "Compliance Conundrum: Schneider Electric Talks REACH." May 5, 2009.

- **The REACH SIN List 1.0** - The aptly named SIN—or “Substitute It Now!”—List specifies substances that a group of recognized NGOs have identified as meeting the substances-of-very-high-concern criteria under current REACH legislation and therefore should immediately be considered for market substitution. It puts greater pressure on government to expedite REACH regulatory processes and increase enforcement efforts.

Like many other types of guidelines, some green standards and guidelines are mandatory, while others are not—and some become requirements written into contract language between business partners. Regardless, their very existence and the underlying resources behind them is tangible proof of the importance they are given and offer a response to stakeholder members seeking counsel as to how they both address regulatory and social pressures, while maintaining uninterrupted business performance.

### Talent Turbulence

So far, this paper has talked about how companies as a whole provide and consume information. But within companies are the actual users and generators of information: the workers. How they work with information can have a significant impact on a company’s operations.

All too often, employees act as sole proprietors within a business. They find their own information sources, store information locally and respond to requirements for information on an individual basis. They are even more apt to do this when the organization doesn’t provide adequate information management tools. An engineer, for example, might waste valuable time hunting down a standard if the company doesn’t have an effective standards management system in place.

In today’s environment, the issues associated with how employees manage information have been magnified. Layoffs, resignations and an aging workforce are resulting in significant worker churn, often leading to the departure of employees with valuable knowledge. That’s because, without the right information management tools or strong incentives to share information, people will keep knowledge to themselves, rather than documenting it and sharing it with colleagues. Then, when they leave the company, they take that information with them. In an era in which information is more important than ever before, it’s a loss that companies cannot afford.

### The Information Continuum

The release of new regulations always has had a significant impact on the business world, influencing both the companies directly affected by them, and those linked to the newly regulated industry. However, regulations also have an impact on the availability of information.

Research has begun to show that market adoption of approaches to regulatory and related social pressure is strikingly similar to discontinuous innovation, a widely recognized methodology that describes the adoption or acceptance of innovation according to demographic and psychological characteristics common among defined adopter groups. And as seen with other types of disruptive innovations, those affected by it respond in different ways using different timeframes depending on their exposure, company culture, philosophies and business objectives.

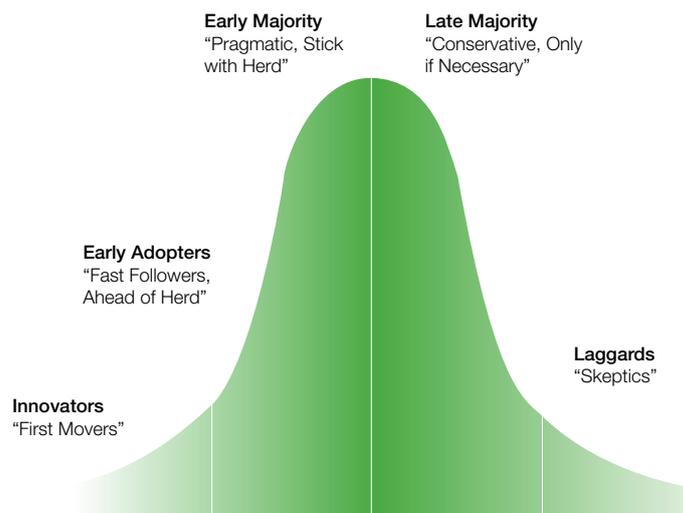
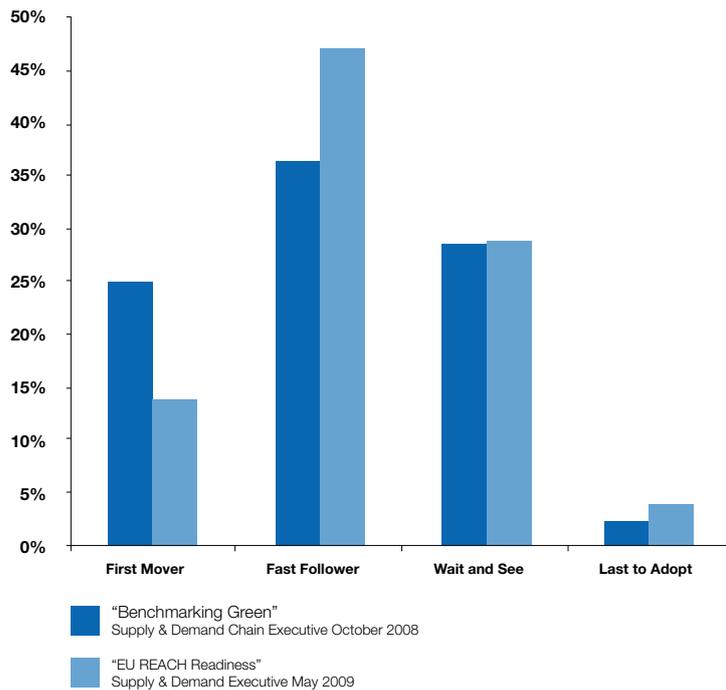
An example of this can be seen with regulations limiting the use of certain hazardous substances, such as RoHS. While all suppliers of electronic and electrical components are under pressure to release environmental information about their products so that their customers can build greener products and comply with RoHS, each is approaching the situation in its own way. In a recent survey, approximately one-fifth of respondents said they include a wide variety of information in their product change notifications and end of life documentation, including energy consumption, the presence of particular substances, toxicity, competitive part number cross-references for substitution and regulatory compliance transitions.<sup>4</sup> This information goes far beyond the requirements of individual regulations like RoHS, but includes the information needed to support impacted business processes, an important consideration given the increasing number of components being sunsetted due to a lack of compliance with green regulations.

## How would you describe your company's adoption of environmental regulations that impact products or supply?

Research surveys conducted by Supply & Demand Chain Executive magazine asked companies to place themselves into one of the following categories:

- **First Mover** - Organizations that view themselves as anticipating market direction, defining their own standards and not waiting for the market.
- **Fast Followers** - Those who describe their actions as allowing others to lead, but follow shortly thereafter or upon early majority.
- **Wait and See** - Those that wait until action is clearly required.
- **Last to Adopt** - Finally, those that act only if it's clear that they must do so and see that others already are doing so.

It concluded that organizational adoptions of actions that respond to "green" regulatory and social pressures resemble a discontinuous supply chain event. This would suggest that standards development activity and information availability in the market would follow and thus vary over time.



Thus, information flows through the supply chain at different times and in different formats, with leading-edge companies often providing the most thorough information in their own unique formats before finalized regulations and standardized processes lead to critical mass and more regulated information flows. IHS refers to this phenomenon as the information continuum. The information continuum presents a challenge for companies, since they need to find a way to manage various types of information being released at different times in often unique formats.

According to a survey conducted by Supply & Demand and see that others already are doing so.

### Establishing Information Management as a Core Competency

Given the overwhelming challenges companies face when it comes to managing information effectively, it may be difficult to know what to do. One option is to start by asking a question: Is information management a core competency for the organization?

To answer that question, companies need to carefully examine how they're currently managing information. Are they paying their employees to do what they were hired to do—design products, procure parts, manage the manufacturing floor—or are they paying them to hunt down the information they need for their jobs? If employees are spending time on activities associated with finding, storing and relaying information rather than on the tasks through which they add value to the organization, then maybe it's time for the company to improve how it manages information—and transform information management into a core competency.

Part of the journey toward establishing information management as a core competency involves recognizing information as an enterprise asset that can be linked to business performance as opposed to viewing it simply as a cost of doing business. As an example of this, consider the results of a study by Aberdeen Group, in which 62 percent of the best-in-class companies it surveyed reported leveraging centralized product data repositories. In comparison, only 40 percent of laggard companies—those that Aberdeen defines as representing the bottom 30 percent of the companies it

surveyed in terms of performance capabilities—did the same.<sup>5</sup> Unlike best-in-class companies, laggards were more likely to store data in multiple systems, documents and spreadsheets—25 percent of laggard companies reporting doing so, compared to 14 percent of those classified as best-in-class.<sup>6</sup>

One way to tell whether information is being embraced as an enterprise asset is to look at who is involved with purchasing decisions related to information. Are managers or other employees buying information products on an as-needed basis, or are executives making decisions about deploying information management capabilities as part of a strategic initiative? The answer to this question can reveal a lot about the company's attitude toward information management.

It's also important to assess how this information is being managed and distributed:

- Does everyone who needs the information have access to it?
- Is the information easily searched, properly indexed and cross-referenced?
- Are there mechanisms in place to keep the information current and complete?
- Are intellectual property and proprietary and copyrighted data being adequately protected?
- To what extent are there gaps and redundancies in the information?
- Is outdated and historical information being purged or properly archived?
- Is there a way to proactively identify information requirements?

These are just some of the questions and issues companies will need to address as they work on transforming information management into a core competency. In the meantime, here are three ideas to consider when reviewing information management practices:

- Automate and digitize information
- Centralize key data
- Establish quality definitions

### Automate and Digitize Information

Many people continue to rely on scribbled notes and hard copies of documents to do their jobs, and spend too much of their time trying to find information. By automating and digitizing information, companies can give their employees the tools they need to get more done in less time. For example, a database of fastener specifications can make specifying standardized components a snap compared to wading through thick product catalogs, while a standards management system ensures all members of a product development team are accessing the same standards when working on a project. And by making it easier for people to find information, they're less likely to rely on their sometimes faulty memories to do their jobs. Plus, since the same information is available to all employees, should one worker leave the organization, it doesn't create the same kind of knowledge vacuum as it does in situations in which employees are forced to find information for themselves.

### Centralize Key Data

Rather than share information throughout the organization, a number of companies keep it in silos in business units, departments or programs, sometimes leading them to miss out on opportunities to save time and money while improving corporate practices. This was the situation for a healthcare products company that needed to evaluate approximately 25,000 parts as part of its effort to comply with RoHS. IHS assessed the situation and realized that nearly 9,500 parts were used across all of the company's business units. Before realizing this significant overlap in parts usage, the company had planned to analyze the parts used by each business unit separately, but by centralizing its RoHS compliance information, it was able to save considerable time and money.

### Establish Quality Definitions

It's one thing to recognize information as an enterprise asset; it's another to realize that not all information is created equal. In order to help drive business performance, companies must ensure the quality of the information they are creating, storing, managing and sharing. That's why it's so important to create a standard definition for information quality, one that takes into consideration concepts such as correctness, currency, completeness and consistency. Once this definition is established, companies can then use it to benchmark overall performance and relative risk and make adjustments as necessary.

### For More Information

For more than 50 years, IHS has been helping companies with their information management needs. Today, IHS is a leading global source of critical information and insight that enables innovative and successful decision-making for governments and multinational corporations as well as smaller companies and technical professionals.

To learn more about information management and how IHS can make a difference, visit [www.ihs.com/plc](http://www.ihs.com/plc).

<sup>1</sup> Aberdeen Group. "Greening Today's Products: Sustainable Design meets Engineering Innovation." August 2008.

<sup>2</sup> *ibid.*

<sup>3</sup> *ibid.*

<sup>4</sup> Supply & Demand Chain Executive and IHS. "Executive Briefing Preparing Supply Chains for the Disruptions of Green Transitions." October 2008.

<sup>5</sup> Aberdeen Group. "Product Innovation Agenda 2010." June 2008.

<sup>6</sup> *ibid.*



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