Standards Management

Value of standards management for cutting costs, reducing risks and improving work processes

BENEFITS:

An effective standards management system can help organizations take full advantage of the standards they need while minimizing costs and risks by providing:

- Automatic monitoring of frequently used standards

- Shared access to common standards for a global product or project team

- Intuitive searching and filtering options

- Standards from a single, trusted source

Consider the typical technical standard. It can go through years of development, with anyone that has a vested interest weighing in on its content. Finally, once it's published, its use is not mandatory, but if companies do use it, they may realize a number of benefits, such as lower costs, faster time to market and regulation compliance. For example, a manufacturer could design a custom hex bolt, or they could choose a bolt that meets the specifications described in *ASTM A307 - Standard Specification for Carbon Steel Bolts and Studs, 60 000 PSI Tensile Strength*. By specifying a standardized part, the manufacturer not only saves considerable design time, but also saves money by being able to source the part from any one of the vendors that supply it—and that's just one part. To calculate the true value of using standards in this scenario, multiply those benefits across the hundreds or even thousands of components that make up one product.

The value of standards as a design resource is often overlooked. Many organizations exercise little to no control over the standards they depend on to do business, whether the issue is limited resources to manage them or the perceived costs involved. Rather than relying on a cost-controlled subscription or custom collection package that contains all the standards their company uses, employees may buy standards as they need them, and therefore inflating the costs for the company anyway. For many companies, enterprise-wide insight into document versions is also limited, potentially resulting in different groups using different versions of the same standard, which leads to even more costly rework, quality or liability issues. Also, without adequate management or guidance regarding standards, employees may unknowingly–or even knowingly–illegally copy and distribute documents, violating copyright laws. When this happens, the organization is at risk of legal action being taken by the copyright owners.

This white paper is designed to help companies take their first steps toward implementing a standards management system. It provides an overview of the importance of standards, discusses the risks associated with *not* providing employees with access to current, applicable standards, examines the challenges associated with establishing a standards management system and offers recommendations on how to develop an effective standards management system based on the organization's requirements.

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The Importance of Standards

Standards are everywhere. They offer guidance on how products should be designed, processes should flow, documents should be managed, services should be offered and even how standards should be developed. There are millions of standards in use and thousands of organizations around the world that develop and manage them, including national standards bodies, regional and international standards development organizations, user groups, trade associations, the military and government organizations. For the purposes of this white paper, all organizations that develop standards will be referred to as standards development organizations or SDOs.

Many organizations rely heavily on standards, and for good reason. Some of the benefits associated with standards include:

- **Interoperability.** Standards help companies develop products that work with other system components, thus making them more attractive to customers.

- **Quality.** Standards provide companies with guidelines that can help ensure the quality of their products.

- **Supply.** Standards enable the development of products that use existing components, leading to more suppliers for parts and therefore often lower costs.

- **Design.** Because standards enable the use of existing components, companies can reduce the time it takes to design a product because fewer components have to be specifically designed for the end product.

- **Environment, health and safety.** Standards can help organizations reduce their impact on the environment and protect the health and safety of their workers as well as downstream users and the public.

- **Regulatory compliance.** Standards enable companies to comply with government and industry regulations.

The bottom line is that standards can help organizations lower costs, speed time to market, operate more effectively and increase revenue opportunities—if they use them correctly.

Potential Hidden Costs of Standards

Standards may offer a number of benefits, but they come at a price. The cost that most people focus on is the price of the documents themselves. Each document may only cost a few hundred dollars, but that can quickly add up for organizations that use thousands of standards. Even so, that isn't the cost organizations should worry about. Hidden under the surface are a number of costs associated with inadequate or nonexistent standards management systems—and these costs can easily outstrip the documents' price tags.

One of the biggest problems associated with not managing standards effectively is version control. Standards change frequently. ASTM International, for example, releases an average of 287 new, revised, re-approved and withdrawn documents a month. And that's just one SDO. Staying on top of these changes is challenging, but vital. Without a standards management system in place, it's difficult to keep employees notified of when standards have been updated. They may not know to check for the newer version, or they may have printed out a copy of the older standard for reference, and don't realize it's now outdated.
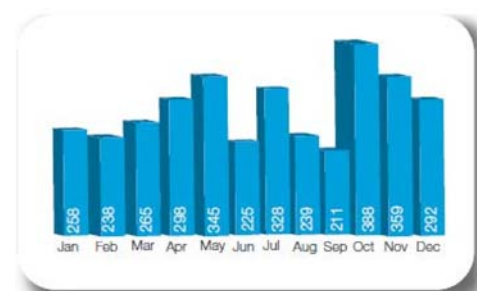
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The fallout associated with employees not using the correct version of a standard can be severe:

- Products being rejected by customers because of their lack of compliance with the correct standard

- Higher costs, lost productivity and missed deadlines associated with rework

- Liability and quality issues

Another problem that people have when working with standards is finding the information they need. With the myriad of standards that can impact an organization, finding the right version of the right standard at the right time can be difficult. While more and more organizations are moving away from a paper-based library system and posting standards in a file directory or on an intranet, searching through these files for the right information can still be time-consuming and tedious.

As a result, rather than search through the file directory or library each time they need a standard, employees may end up printing out or saving regularly used documents to their desktops. By doing so, they may be at risk of using outdated standards. In addition, organizations may experience lost productivity resulting from too much time spent searching for the necessary standards.

Copyright abuse continues to be a dominant issue when it comes to standards. Since the advent of electronic documents, it's easier than ever for people to copy and illegally distribute standards. Organizations that don't establish and enforce strict policies designed to eliminate copyright abuse may find themselves at risk of violating national and international laws. When that happens, they may face lawsuits brought by the copyright owners, and could spend significant time and money fighting legal sanctions.

Finally, by not effectively controlling standards use, organizations may have employees purchasing standards as they need them. While this may sound like a good idea—after all, they want their employees to have the information they need to do their jobs—this strategy can backfire. For example, locally stored documents can be lost if the user experiences computer problems. Then there is the risk of duplicate purchasing, where an employee may be buying a document already included in a subscription for which the company is paying. Also, when employees make their own document purchases, they might end up using different versions of the same standard.

Standards Management Challenges

The sheer number of standards that organizations need to manage can be overwhelming. For example, if the number of standards used to build a Boeing 747 were printed out, they would fill the plane. Even a simpler device, such as a phone, is impacted by a number of standards, such as those associated with the phone's plastic case and the circuit board inside the device, as well as a number of communications standards that ensure safety when users are making calls.

While managing a large number of documents is difficult in of itself, organizations face other challenges when it comes to standards management. First, there's the difficulty associated with making sure that the people who need to use standards have access to them. It may sound simple—just buy the standards, post them on the company's intranet and let people find the files for themselves. But with hundreds or thousands of standards to choose from, it can become an overwhelming and time-consuming task to search for the right information.

Another challenge organizations face is keeping standards use consistent, so that everybody is using the same versions of the same standards. In part, this is helped by automating the updating of standards, so that as new versions of documents are released, they are purchased and used to replace outdated documents.

Companies also need to make sure that they are purchasing standards from reputable sources. By doing so, they will be able to ensure the quality of information they are using throughout their businesses. At the same time, they need to focus on reducing or even eliminating the chances of copyright abuse. This requires clear communications

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and consistent policies and guidelines. While it's easy to copy a document and send it out or illegally post it on a file-sharing network, it's a criminal act that employees must be strongly warned against committing.

Standards Management Recommendations

As discussed above, carefully managing standards is important. But how a company should manage its standards—and the tools that are used to do so—may differ depending on the needs of the organization.

At its most basic, a standards management system should allow organizations to store and procure standards documents while keeping standards up to date and enforcing copyright laws. At the same time, it should make it easy for users to find the information they need to do their jobs. What this system looks like will vary depending on a number of factors. For example, one person, working alone, such as a freelance product designer who always works from a home office, may only need a handful of standards.

Designer's often buy hard copies of the standards, store them in a binder and flag the pages frequently referenced so it's easy to find the necessary information. But what happens if that designer often travels to a client's site to work? Now that mobility is a priority, the designer may be better off buying electronic copies of the documents and storing them on his or her laptop. But in either scenario, the designer needs to be sure the most current version of a standard is being used. That's why it's important for him or her to work with a vendor that sends automated notifications of updated versions of the documents he or she already owns as soon as a newer version is released.

The freelance designer may be a one-person operation, but his or her needs are similar to those of a larger organization. Just as the freelancer needs to quickly find pertinent information, companies with multiple standards users on staff want to make it easy for employees to search for and locate the information they need to do their jobs. They also want to ensure the standards are kept up to date.

Companies could emulate the freelance designer and have users buy and keep copies of the standards on their computers or at their desks, but that may not make sense, since managing standards this way can be difficult and expensive. Because of this, not too long ago, companies with a large number of standards users would store standards in a centralized location that users would have to visit to access information. Today, companies continue to embrace centralization, but rely on portals, intranets or file sharing servers to do the job.

By making standards available through a centralized electronic site, such as a portal, companies make it easy for employees to access standards. Since the documents are kept in a central location, they're also easier for the company to manage and keep up to date. However, internally developed electronic libraries do have disadvantages. They place the onus on the company to manage the documents and keep them up to date. Also, in order to abide with copyright requirements, which can differ depending on the SDO that published the standard, companies need to create controls that limit the number of people accessing electronic copies simultaneously, and prevent the printing of multiple copies or downloading to multiple computers.

Also, larger companies have other issues that they need to consider when implementing a standards management system. One has to do with the need for collaboration. As employees work together on the same project, they need to do more than just share the same standards—they also need to share information. Making it possible for workers to capture the knowledge in their heads is becoming increasingly important. When it comes to standards, this means giving users of standards the ability to make notes on the documents they reference on a regular basis and allowing them to share that information with colleagues.

Another issue is associated with standards procurement. Many companies that need standards from a variety of SDOs may buy a subscription or custom collection from a third-party information provider that includes

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the standards they require. But employees need to access other standards not included in the subscription. Companies sometimes give their employees a budget to cover these expenditures, but without careful oversight, their money may not be spent wisely. For example, if several employees are buying individual copies of the same standard, it might be more cost-effective to add the standard to the company's subscription. On the other hand, if some of the standards in a subscription or custom collection aren't being used, the company would be better off dropping those standards from the package of standards to which it subscribes. That's why insight into standards purchases and use is critical.

One way to address the issues larger companies face is by using an Internet-based standards management tool provided by an experienced information provider. When evaluating a third-party standards management tool, it is a good idea to look for one that has built-in collaboration capabilities, such as the ability to add notes to individual documents. Another ideal feature is an interface that users can personalize so that they can quickly find the information they need. For companies that create their own standards, they should also make sure the system they choose can support the incorporation of their standards with those they purchase from SDOs. Users need to access the organization's entire standards collection from one location.

Clearly, there are a number of factors to consider when choosing the ideal standards management tool. Before making a decision, organizations should first assess their current situation. To do so, they should ask themselves questions such as:

- What standards do we use?

- Do we have our own internally developed standards?

- How many standards users do we have and where are they located?

- Where do we buy our standards?

- Where do we store our standards?

- How do people access the standards?

- How do we keep standards up to date?

- How do we ensure that employees are using the same versions of standards?

- What is the impact if someone doesn't have access to the right version of a standard?

- What management practices do we have in place associated with copyright enforcement?

The answers to these questions will help companies make more educated decisions about their standards management needs. While it may seem obvious that a large company using thousands of standards will benefit from a third-party standards management system that provides automatic updates when new versions of standards are released, organization size isn't the only indicator of need. For example, a smaller company that manufactures life-saving medical devices may be well advised to consider a similar system given the critical nature of its products and the potential risks it faces in not using the current version of a standard. Similarly, another large organization may only use a few standards; in that case, it may be able to make do by buying individual copies of standards and giving them to the employees that need them. Every company is unique, and therefore should carefully assess its situation before making a decision on the best course of action when it comes to standards management.

Taking the First Step

By implementing careful standards management policies and using the right tools to manage their standards, companies can ensure they are deriving greater value from the standards they use throughout the enterprise while minimizing the risks and costs associated with mishandling such critical documents. Companies interested in achieving these goals should start by examining their current standards use practices, and then begin investigating the tools and processes they can implement to better manage their standards.

To learn more about standards management from IHS, visit
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