

The Why and How of Digital Transformation for SDOs

Introduction

A Standard Developing Organization is defined as *“An organization whose primary activities are developing, coordinating, promulgating, revising, amending, reissuing, interpreting, or otherwise producing technical standards that are intended to address the needs of a group of affected adopters.”*¹

The concept of standardization, standards bodies and committees started with the onset of industrial revolution in 1800. In 1902, Engineering Standards Committee was established as the world's first national standards body in London and the International Organization for Standardization (ISO) officially began its operations in 1947.

In today's age when there is an increased focus on digitization, this age-old industry is also focusing on riding on the digital wave. However, the digitization initiatives of SDOs are extremely complex and involve several activities such as conversion of legacy codes and standards, content delivery and management, digital selling, online certification and examination, and also accreditation enablement.

Through this comprehensive guide by InfoBeans, we will know –

- Why the Standards Developing Organizations are going digital
- What exactly is involved in adopting the digital means for the codes and standards
- The various aspects of digital content delivery and management for SDOs
- How mobility is playing a crucial role in the digital transformation journey of the SDOs
- What is involved in the digital selling and distribution of standards
- Role of technology in Accreditation

The Need for SDOs to go Digital

Typically, the SDOs perform the standardization work through committees or subcommittees. These committees focus on particular standards in a particular area. Those job of these committees is to develop draft documents which go through multiple reviews and approvals before being published as standards. The overall standards development process is quite exhaustive and the final publications are also exhaustive publications. The SDO industry has a direct and wide impact on the lives of a lot of people and the codes developed are practiced by companies, contractors, and individuals of varying skills, capabilities, and resources.

While most of the other industries such as banking, finance, retail, pharma, healthcare, and IT have jumped on the digital bandwagon and reaped immense benefits of

digitization, the SDO industry has also started adapting the technological evolution to ensure that the standards that are developed remain relevant, are easily accessible, and usable to the users.

Adapting to Digital Format

With an increased focus on digitization, consumers of standards are increasingly demanding access to the all the standards related information and material in an easily available digital format.

Typically, the standards are published in a hard copy format. For the users of these standards, it then becomes extremely difficult to refer to particular points in the document or search for specific information. Converting these standards and codes in an online format can help in navigating these challenges. However, given the fact that people today use a variety of devices such as iPad, Kindle, Smartphones, tablets, laptops, and desktops for accessing the information, it needs to be ensured that the digital copy of the standards renders well to the readers across this wide range of devices.

Key Aspects in Conversion

Going digital for SDOs means converting the huge amount of legacy into digital format. Let us take a look at various aspects involved in the code conversion -

- Converting the standards and codes to digital format is a very complex job because of the huge amount of legacy content in the form of research papers, text books, journals, magazines, periodicals, yearbooks, technical, flight and other manuals. All such content is usually available in a hard copy format. While converting these into digital format, 100% accuracy needs to be ensured and it should also be confirmed that the relevance of the content does not get compromised during the digitization processes.
- The other challenge during such conversion process is the conversion of mathematical formulas and equations. Simply converting these equations into an image and then publishing in a digital document is not useful because these images cannot be edited. In case the formula or equation needs to be changed, the publisher then has to create a new image which is very resource and time consuming. Use of technologies such as MathML (Mathematical Markup Language) can help in accurately converting the mathematical and scientific content on digital platforms.
- Considering the wide variety of devices and digital formats available today, the content needs to be made available in multiple formats such as HTML, XML, Word, MySQL, SQL, Excel, ePub, .mobi or other associated publishing formats. During conversion to these formats, it is important to ensure that the content, format, and style of the standards and codes remain unchanged.

In a nutshell, adapting to digital format includes efficient and faster conversion of legacy data while ensuring 100% conversion accuracy.

Digital Content Delivery and Management

Efficient content delivery and management is one of the key aspects of the digitization process. The digital formats of the standards and codes should be easily stored and made available in a readable format.

The digital content delivery and management platform which makes the codes/standards/journals available should offer copy and paste options, ways to identify the changes in the current year as compared to previous year, highlighting, notes and annotation facilities, search options and also provide options to hyperlink specific content. All such things contribute to providing a great content delivery experience.

The document management system should integrate digital asset supervision and distribution with other applications so that users are able to retrieve relevant and authorized documents directly from anywhere. The system should offer the ability to make changes to the documents and then seamless saving of those documents back to the repository. The system should also be able to support a variety of media files.

Following are the key features SDOs should look for while developing a digital content delivery and management system:

- **Collaboration:** The system should allow multiple concurrent users to simultaneously use the system and should allow sharing of access with multiple people.
- **Highlight and Notes:** Users should be able to highlight and make notes for the important sections of the document for further reference.
- **Recording:** Permanent recording of code sections should be allowed for easy references.
- **Bookmark:** The users should be allowed to bookmark specific sections and sub sections so that those can be accessed quickly when needed.
- **Hyperlinks:** Allowing internal and external hyperlinking of the standards text so that the users can make references from different portions of the text of the same book or can view the different books with a simple click.
- **Search:** The digital platform should offer advanced search options for a content search of all titles across the library as well as a drill down to a specific chapter or a specific section to find more targeted results.
- **Library:** The platform should make it easy for the users to access the available books and allow viewing of those books according to year, collection, purchase date or titles.
- **Print:** To facilitate offline reading of the standards and codes, the platform should facilitate download and printing of the DRM-protected content using a centralized interface.
- **Ease of Use:** It is essential that the user interface of the platform is simple, clean, easy to use and offers a simple navigation through well-placed buttons. It should highlight specialty topics and high traffic areas on the portal so that the users don't need to spend a lot of time to access key options.

- **Extensibility, Integration, and Security:** The backend of the system should be scalable and should offer easy integration and data exchange with other systems. Data security should be maintained through advanced security management.

Digital Transformation and Mobility

According to the latest report “2017 US Cross-Platform Future in Focus” by comScore, mobile now accounts for 69 percent of digital media time spent²

The mobile adoption and usage is growing at a phenomenal rate. Mobile has radically transformed the way people consume information, read news, interact with others, network, and even shop. Considering this rapid dramatic growth of mobile usage, it is imperative for the SDOs to ensure that the digital platforms and systems that they adopt are not only mobile friendly but also offer enhanced mobile experience.

In many cases, SDOs are choosing to build mobile apps for specific purposes and workflows and achieve a hyper-connected optimization.

Digital Selling and Distribution

Online sales are forecasted to reach \$523 Billion by 2020.³

eCommerce is growing very rapidly. Considering the growing popularity of eCommerce and trends towards online purchases, it makes sense for the SDOs to leverage online medium for sale of the codes and standards. To make these standards easily available to the digital audience, SDOs need to design and develop an eCommerce portal. Unlike regular eCommerce portals which offer a range of products for easy purchase, the eCommerce portals of SDOs need to offer specific options such as subscription, concurrent access, membership-based discounts, purchase of the standards in various formats such as soft copy, hard copy or a digital subscription.

Some of the key features to look for in the eCommerce portals include -

- Through the subscription option, users should be able to subscribe to a standard for a specific period of time and follow a workflow. Access to the content should be offered for the license period.
- The portal should allow multiple users to access the code once the license for collaboration is purchased. It should also allow the licensed multiple users to collaborate on a book.
- It should allow users to avail specific discounts such as membership discounts and volume discounts.
- It should display runtime pricing and perform all the tax calculations.
- The users should be able to get a complete view of their purchases according to titles, year, purchase date or collection through their online bookshelf.

- A variety of payment gateways and options such as PayPal, Chase Paymentech, EBS should be integrated within the system to allow the users to pay the appropriate fees online for the ordered services and get quick access to their purchases.
- The automatic ordering workflows should ensure that the overall process is completely automated and does not require any human intervention.
- It should be easy for the users to place repeat orders. The system should automatically send personalized payment reminders.
- Users should have a free reading option to review selected pieces or chapters of the book. It can help them in making a better selection of the exact books they need.
- Based on the data, the portal should be able to offer insights into inventory optimization and sales forecasting.

Accreditation Enablement

Accreditation is a process in which accreditation bodies offer certification of competency, authority, or credibility against official standards to third parties. It is a complex process involving application submission, fee payment, documentation and a thorough assessment by technical and subject matter experts. Doing this process manually is extremely effort-intensive and also time-consuming.

Some (not all) SDOs are also involved in accreditation process and technology can help them in automating the overall accreditation process and making it smoother and faster. Accreditation bodies can develop online portals to facilitate various steps involved in the overall accreditation process.

The key features which the Accreditation bodies should look for in their digital portal include-

- An easy-to-use dashboard for easy application management
- Standards management, curriculum management, program management
- Assessment and evaluation capabilities
- Self-introspection/assessment features coupled with robust analytics capabilities
- Automated workflows and accreditation verification process to ensure greater productivity and minimal time investment
- Multiple access options for customers, contractors, and staff
- Online updates for documents so as to reduce the application processing time and also reduce the manual intervention

InfoBeans' Expertise in Helping SDOs with Digital Transformation

Developing web and mobile applications for Standards Developing Organizations is a niche skill which requires not only the understanding of cutting-edge web and mobile technologies but also knowledge of the SDO industry.

Over the past several years, InfoBeans has been working with SDOs worldwide and helping them with their digital transformation initiatives. We have helped them with –

- **Data Conversion:** Conversion Planning, Data Evaluation, and Analysis, Format Structuring, Image construction, Resizing, Complex equation/formula conversion, Data conversion in different formats while preserving the format and ensuring 100% accuracy.
- **Standard Publishing Process Automation:** Design and development of online portal to allow the users to build a virtual library. Facilitate purchasing of publications with features such as online reading, annotation, highlight, bookmarking, user collaboration etc. on virtual publications.
- **Workflow and Document Management:** To integrate digital asset supervision and distribution directly with other applications with seamless connection to the document management system repository.
- **Digital Selling, Consumption, and Distribution:** Development of eCommerce store to facilitate selling of codes, standards, training programs, subscriptions and related material online.

Data conversion is one of the key offerings of InfoBeans. We help SDOs convert data easily from different formats such as XML, Word, ePub, HTML with a fast turnaround time in terms of conversion and proofreading. We help them convert data from any hard copy source such as hard prints, PDF and electronic sources to digital formats easily, and make it available on multiple devices. The use of automation ensures reduced manual errors during the conversion process. Our robust quality checking and management capabilities ensure 100% code conversion accuracy.

At InfoBeans, we act as a trusted technology partner for the SDOs and help them with their digitization journey.

Know more about how we have helped several SDOs with their digitization initiatives: <http://www.infobeans.com/verticals/publishing-standard-developing-organizations>

Conclusion

The age-old SDO industry is fast catching up with the digital revolution. With the proliferation of the Internet and mobile devices, the SDOs have realized the importance of going digital with their operations. Going digital involves – accurate conversion of the legacy code data, automaton of various workflows and documentation processes, design and development of eCommerce portals, and design and development of portal for online content delivery and management. Some SDOs which are involved in accreditation also want to automate the overall accreditation process which can enable them to save time and maximize their revenues.

Designing and developing such systems and portals is a niche skill. One needs to have a deep understanding of the domain and the specific requirements, knowledge, skills, expertise in latest technologies and expertise in developing portals for standards selling. At InfoBeans, with our knowledge and understanding of this domain and technologies, we have been working with SDOs all over the world and helping them with their digitization initiatives over the past several years.

About InfoBeans

InfoBeans is a technology service provider offering development and implementation of cutting-edge software solutions for various small and large enterprises across all verticals. With our extremely innovative, dedicated and experienced team, we have helped organizations worldwide in developing robust and ascendable solutions.

InfoBeans has worked with enterprises in the automobile, engineering, telecom, currency printing, and storage domains and helped them with their custom software development, storage and virtualization, UI/UX, eCommerce, and automation engineering needs. Our team of experts specialize in build and release automation that enables businesses to achieve continuous integration and faster deployment cycles.

For more information, visit us at <http://www.infobeans.com>

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