Analysis of Future Development Trends in Publishing and ISLI Standard Application: Post-Print

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Date: 2023-10-08T00:00:00+00:00

Abstract

With the advent of the information age, information technology has found extensive application across various industries. Internet technology will guide the convergence of different industries and domains, connecting elements across disparate scopes—this constitutes an important trend in the development of all sectors. Promoting the integration of the publishing industry with information technology represents an inevitable trend in the fusion and development of traditional publishing and digital publishing. This paper studies future development trends in publishing and explores the application of the ISLI standard within the publishing industry.

Full Text

Analysis of Future Development Trends in Publishing and Application of the ISLI Standard

Abstract: With the advent of the information age, information technology has been widely applied across various industries. Internet technology is guiding the convergence of different sectors and domains, connecting elements across disparate scopes—this represents a crucial development trend for all industries. Promoting the integration of the publishing industry with information technology is an inevitable trend for the fusion and development of traditional and digital publishing. This paper examines future development trends in publishing and analyzes the application of the ISLI standard within the publishing industry.

Keywords: publishing; digital publishing; development trends; ISLI standard; application; analysis

Classification Code: TP37
Document Code: A
Article ID: 1671-0134(2018)07-1167-02
DOI: 10.19483/j.cnki.11-4653/n.2018.07.042

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1.1 Digital Transformation Led by Publishing Enterprises

Traditional publishing enterprises have pursued digital transformation to achieve sustainable development, continuously optimizing their digital publishing operations through initiatives such as digitizing print books, providing digital reading services, and developing internet products. However, most publishers have achieved limited success in these efforts. The e-readers developed by publishing companies have proven insufficiently competitive, leading many to conclude that publishers' e-book terminals are destined to shut down. Furthermore, when benchmarking their products against internet companies, publishing enterprises lack inherent internet capabilities, resulting in slow product iteration and ineffective operational strategies, which suggests that their path toward internet products will be arduous.

1.2 Digital Publishing Dominated by the IT Industry

Digital publishing emerged from the fusion of information technology and the publishing industry, with Chinese IT enterprises being the first to enter this space and consequently dominating the profitable digital publishing market. These IT companies leverage information technology to provide digital reading services, evolving into digital publishing enterprises. Notable examples include digital journal libraries such as CNKI (Tongfang Knowledge Network), Wanfang Data, and VIP Information, as well as digital mobile reading platforms like ChineseAll and iReader. These digital publishing IT enterprises have gradually encroached upon traditional publishers' markets and even their author resources, establishing themselves as the primary battleground for digital publishing.

2.1 From the Perspective of Publishing Products

First, publishing products will feature richer content and more sophisticated structures. Compared to traditional publishing products, these new offerings will contain more extensive information with increasingly complex interconnections between knowledge elements, forming tightly integrated structural networks. On the user end, this will be visualized as graphical representations, transforming traditional elements like "tables of contents" and "summaries" into "reading navigation maps."

Second, products will become more closely interconnected. Each publishing product will establish "anchor points" that allow users to link to content within

the same product or to other products based on their needs, effectively overcoming the traditional limitation where books could not be linked to one another.

Finally, product presentation forms will become more diverse. Future publishing products will center on specific themes and be expressed through various formats such as news and stories. When delivering information, publishers can establish "anchor points"to connect relevant knowledge, and similarly embed these anchors within narratives to link to related knowledge. Publishing products will no longer be limited to traditional books or periodicals; their manifestations will become more varied, ranging from continuously updated fragmented content to interactive products that engage users directly.

2.2 From the Perspective of Content Service Models

First, supply-demand relationships will become more intimate, with more frequent interactions between providers and consumers. When publishing products reach consumers, a supply-demand relationship is established. Client applications record and transmit user characteristic data and reading behavior data to providers, guiding them to deliver needed products. Consumers can actively participate in the production of publishing products by expressing their ideas and demands to providers through interactive channels at "anchor points" established by either the provider or within the product itself. Providers must scientifically adjust their supply strategies, introduce products to the market, understand user needs, and thereby improve product and service quality.

Second, content service methods will diversify. In the future, the publishing industry will become a driving force for realizing the dream of building China into a culturally strong nation, not only effectively promoting economic development but also serving as an essential "knowledge powerhouse" for various industries. By establishing "anchor points" in production activities and utilizing transmission channels such as the internet, mobile internet, and broadcasting networks, publishers can deliver various publishing products to users through terminal devices. Moreover, as communication between publishing enterprises and various industries becomes increasingly close, cross-industry knowledge collaboration can be achieved, linking from one knowledge "anchor point" to knowledge in another industry to form a cross-network of knowledge.

2.3 From the Perspective of Production and Operations Management

First, resource management levels will improve. The adoption of digital technology in business management will transform production and operations management methods in publishing enterprises, requiring them to strengthen management of information content resources. From the perspective of enterprise information systems, management objects can be termed "resources," while from a content management perspective, they can be called "materials." Publishing enterprises need to index resources according to objective tagging mechanisms and index materials based on subjective, content-value-oriented tagging mecha-

nisms. These two tagging mechanisms must be mapped to ensure that required resources can be quickly obtained from both perspectives during production.

Second, data management capabilities will be enhanced. Publishing industry data can be divided into supply-side data and demand-side data. Supply-side data primarily includes content resource data, content product data, and marketing activity data, while demand-side data mainly comprises user characteristic data, user behavior data, and user requirement data. During management, data must be collected according to relevant regulations to provide a basis for management work. "Anchor points" can be set within the same data, while ensuring the authenticity and legality of data information to support decision-making and management activities.

2.4 From the Macro Perspective of the Publishing Industry

To achieve modernized management of product services and operations, secure and reliable management mechanisms must be established. Simultaneously, instructions must be transmitted quickly and efficiently to each business node to obtain complete, interrelated codes, thereby realizing the goals of codified resource management and product management. In this process, codes must be designed to meet various requirements of business processes and management activities.

Managing codes requires establishing comprehensive, unified standards to enable resolution between codes and exchange data information embedded within them. Additionally, complete standards must be formulated to ensure code interconnectivity, thereby fulfilling management requirements.

3.1 Application in Resource Management and Product Production

The ISLI standard can achieve content resource management objectives. The ISLI National Standard Registration Center and various application standard centers jointly enable metadata sharing, promoting aggregation of data resources and laying a foundation for the development of the publishing industry.

ISLI enables metadata management for industry products. When a publishing enterprise plans to produce a "paper book + audio" product, it must apply for codes from the ISLI/MPR Center. If both the paper book and audio recording have already obtained codes, verification with the ISBN Center and ISRC Center is required. Upon approval, the ISLI registration management system will generate the ISLI/MPR code for the product. Otherwise, the enterprise must first apply for ISBN and ISLI/MPR codes.

Using the ISLI standard can effectively enhance enterprise content resource management quality. Publishing enterprises need to equip themselves with an ISLI encoding management system and connect it with a multimedia resource management system. The multimedia resource management system primarily functions to preserve document files, while the ISLI encoding management system

provides ISLI codes and enables accumulation of content resource metadata.

ISLI can effectively improve publishing product production and outcomes management. Once a publishing enterprise determines which "association" application to use and has identified the product theme, it can contact the relevant application standard registration center to install the necessary software, most importantly the standard code embedding tool. Through this software, "association" codes can be embedded into publishing products, thereby achieving metadata accumulation.

Publishing enterprises can fully leverage the code positioning function of ISLI application standards to track product operational effectiveness. Using either public or private cloud infrastructure, publishers can remotely monitor aspects such as copyright protection, copyright asset management, and product marketing.

3.2 Application of ISLI Marker Codes and "Dormant Codes"

According to relevant national regulations, when publishing print books or audiovisual products for the first time, publishing enterprises must apply for ISBN and ISRC standard codes, as well as ISLI marker codes and icons, regardless of the type of associated publishing product.

The ISLI marker code represents a complete ISLI code, signifying the relationship between the entire publishing product content and its metadata. Additionally, when the ISLI Center allocates ISLI marker codes in accordance with national regulations, it assigns ISLI standard codes to publishing enterprises, which are classified as "dormant codes."

Publishing enterprises use multimedia resource management systems to manage document files and audio files, allocating ISLI codes when resources enter the database. These codes utilize "dormant codes" generated by the encoding management system and correspond to the respective file archive data.

After obtaining the marker code, if the enterprise has determined the association method and product type, it must apply for additional codes. For instance, if the enterprise decides to publish a "paper book + audio" product, it must apply for an ISLI/MPR code. During the application process, the enterprise needs to activate the dormant code in its ISLI encoding management system, select the text documents and audio files from the multimedia resource management system, have the relevant department allocate the ISLI/MPR code, and use relevant software to produce the publishing product through the digital production system.

The primary purpose of allocating dormant codes is to provide application space for publishing enterprises before they determine the type of product association. This demonstrates that enterprises can apply for ISLI marker codes even before determining what kind of product to publish, eliminating the need to wait until the product is finalized before applying for codes.

[Figure 1: see original paper] Schematic Diagram of ISLI Marker Code and Icon Application Process

In summary, with technological development, to promote stable development of the publishing industry, the ISLI standard must be applied within the publishing sector, continuously improving the ISLI standard system and utilizing information technology to foster healthy, sustainable development of the publishing industry.

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Note: Figure translations are in progress. See original paper for figures.