

Exploring the Design of Digital Publishing Products for University Press Textbooks (Post-print)

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

Abstract

The contemporary era is characterized by the mobile internet, with smart devices such as smartphones and tablets having achieved ubiquitous penetration. Mobile internet has fundamentally transformed the modalities of human life, work, and learning, while concurrently exerting substantial impact on the publishing industry. Although educational publishing has been relatively less affected compared to other publishing sectors, failure to adapt expeditiously to the mobile internet epoch will inevitably precipitate decline. In recent years, various publishing houses have undertaken explorations into digital transformation to varying extents, leveraging their respective resource advantages according to their particular circumstances. This paper investigates the design principles for digital publishing products in the textbook category, based on the Rail Transit Vocational Education Cloud Service Platform—a project successfully submitted by our publishing house and included in the National Press and Publication Reform and Development Project Repository.

Full Text

Exploring the Design of Digital Publishing Products for Textbooks in University Presses

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Abstract: We live in an era of mobile internet, where smart devices such as smartphones and tablets have become ubiquitous. Mobile internet has fundamentally transformed how people live, work, and learn, exerting a profound impact on the publishing industry. Although educational publishing has been less affected than other sectors, it cannot escape decline if it fails to adapt to the mobile internet age. In recent years, various publishing houses have leveraged their resource advantages to explore digital transformation to varying degrees. Drawing on our press's successfully approved project in the National

Press and Publication Reform and Development Project Repository—the Rail Transit Vocational Education Cloud Service Platform—this paper discusses design principles for digital textbook products.

Keywords: publishing house; digital textbook products; transformation

The Principle of Integrated Development

Through years of digital publishing practice, the industry has widely recognized that the relationship between digital and traditional publishing is one of “integration” rather than replacement. This integrated development is determined by the inherent characteristics of both mediums and offers mutual benefits. Traditional publishing uses paper as its medium to present content through printing. Its advantages are substantial: humanity has nearly 2,000 years of history reading paper books, through which vast cultural content has been preserved. Paper books remain the primary reading medium today. They offer superior tactile quality, high contrast, and excellent reading experience—particularly important for textbooks that require deep, sustained reading. Paper books also enable convenient note-taking with a pen, rapid browsing and flipping, and stable usage without power concerns.

Digital publishing, by contrast, offers complementary strengths. Digital media can carry rich multimedia content—including video, audio, animation, and interactive programs—that makes publications more dynamic and engaging. Storage capacity is virtually unlimited; while paper books become heavier as content increases, digital media storage is weightless—a single device can hold an entire library’s collection. Digital books enable instant keyword searches and allow for seamless content updates at virtually no cost, independent of print runs. This ensures content remains accurate and current. Moreover, digital publications eliminate printing, inventory, and distribution costs, making their prices typically one-half to one-third of paper books.

Comparing these advantages reveals a clear conclusion: paper books are ideal for deep reading and remain the best medium for textbooks, while their limitations can be compensated by digital media. Therefore, the first principle in designing digital textbook products is to center them around paper books, creating integration rather than replacement.

Leveraging Institutional Strengths

While digital and traditional publishing differ in form, they share the same essence: acquiring resources, editing them, and delivering them to readers. A publishing house that cannot excel in traditional publishing will not succeed in digital publishing either. This fundamental consistency means that advantages in traditional publishing can translate into digital publishing strengths.

University presses typically have established expertise in specific fields developed over many years, giving them powerful capabilities for acquiring publishing resources. These areas usually align directly with their university's academic strengths and disciplinary advantages, which become the press's publishing advantages. The university also cultivates numerous graduates in these fields, providing a rich pool of author resources. Digital publishing must fully leverage these institutional advantages.

University presses possess high-quality author groups in their specialized fields and have published many excellent books. They have also cultivated outstanding professional editorial teams through long-term traditional publishing practice—an essential factor for successful digital publishing. If a university press fails to capitalize on these favorable conditions and instead pursues entirely new directions, it is essentially abandoning its foundation.

Clear Product Positioning

Digital textbook products are essentially extensions of paper textbooks and should share the same positioning. Textbooks serve to assist teachers in instruction, not to replace them. Some digital textbook products claim to be so comprehensive that teachers need not prepare lessons—a positioning that is fundamentally flawed, regardless of whether such claims are realistic. For publishers, the end users are teachers, not students. Products that claim to partially or fully replace teachers will face resistance and fail to achieve market penetration.

Digital textbook products must genuinely support teaching effectiveness. This support manifests in two ways: improving teaching outcomes and reducing teachers' workload. For example, providing teaching resources that are difficult or time-consuming for teachers to obtain can enhance classroom effectiveness. Offering micro-lectures on key concepts can spare teachers from repetitive explanations and reduce their burden.

Sustainable Profit Models

Digital textbook products require reasonable profit models to ensure long-term stability. Currently, three main models exist: profit through related paper textbook sales; profit through direct product sales; and free models supported by other revenue streams. The free model is unsuitable for textbook products because their readership is relatively limited, making it difficult to accumulate user resources for alternative revenue generation such as advertising. The preferred model is profit through related paper textbook sales. This approach is stable, clear, and feasible, maintaining formal consistency with traditional publishing while remaining unobtrusive to readers. For digital products that are scarce or of exceptionally high quality, direct sales may be considered.

Technical Implementation Strategy

Digital publishing technology can be developed in-house or through external partnerships. University presses excel in resource acquisition, author networks, editorial teams, and brand reputation—not in digital technology. Developing digital publishing technology requires significant technical accumulation, stable development staff, and substantial investment. Moreover, product development demands many technicians, while maintenance requires far fewer, creating staffing challenges during later stages. Leveraging external resources offers greater flexibility and lower costs, though careful consideration must be given to coordination with existing products. Therefore, digital publishing technology should primarily rely on external resources, with the press actively participating in and mastering technical details regarding product architecture, technical roadmap, and database design.

Case Study: Rail Transit Vocational Education Cloud Service Platform

Based on these principles, our press successfully developed the Rail Transit Vocational Education Cloud Service Platform, approved for the National Press and Publication Reform and Development Project Repository. This project responds to national strategy and the digital transformation needs of traditional publishing enterprises, planned after investigating the educational status of rail vocational colleges and the training resources of railway enterprises, while leveraging our press's rail transit specialization and existing resources.

Our press specializes in rail transit publishing, and the industry's development presents a rare opportunity for digital transformation. According to national railway construction plans, by the end of 2016, national railway operating mileage reached 130,000 kilometers. China's rapid rail transit development objectively demands large numbers of technical personnel, creating a broad market for professional digital publishing products. Domestic vocational and technical colleges are widely exploring "work-study integration" education models to directly connect with production realities and enable graduates to become job-ready after brief training. However, a significant gap remains between graduate skills and enterprise requirements, largely because vocational colleges have limited access to enterprise educational resources. This creates strong demand for enterprise educational resources.

Railway, as a crucial national economic sector, prioritizes safety and maintains a comprehensive employee education system with rich vocational training resources—providing excellent external conditions for our product development.

Based on this context, our press is building an industry-resource-based, teacher-led cloud service platform that integrates with traditional paper textbooks. The platform aims to: (1) achieve integration between internet and traditional publishing, digital resources and teaching platforms, and paper textbooks and on-

line teaching tools; (2) realize a model of “direct connection between enterprise educational resources and vocational education” to improve rail talent training quality and teacher competence; and (3) implement the “Internet Plus” strategy to enhance publishing capacity and achieve digital transformation.

The project comprises two components: resource development and cloud platform construction. First, we extensively acquire existing employee training resources and develop additional materials as needed. Our press edits, processes, and categorizes these resources by trade and format to build a resource library. Second, the cloud platform includes an auxiliary teaching web platform and mobile client software. The web platform manages resources, delivers them to students, and aggregates feedback information. Teachers are the primary users, selecting and pushing resources to students while monitoring learning progress and evaluating teaching effectiveness. The mobile client software, installed on students’ smart devices, receives pushed resources and provides learning feedback.

The system architecture of this project is shown in Figure 1 [Figure 1: see original paper].

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

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