Research on Rich Media Digital Publishing Mode under the Context

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\textbf{Abstract}. This paper elaborates the present research situation of the rich media of digital publishing mode, and based on the context four elements proposed by Peng Lan: the space and environment, users real-time status, the life of inertia and the social atmosphere to analysis the rich media digital publishing mode. The authors think that this new publishing mode was born under the concept of context and complying with the new publishing model of media integration trend. In addition attaching importance to and development of rich media digital publishing is the key to the transformation of press and publication industry. The conclusion of this paper has a certain supporting effect on the development of press and publication enterprises.

\textbf{Introduction}

At present, there are a large number of publications, which provide a rich source for users to obtain information resources. Users will need to spend a lot of time on literature selection and analysis to acquire the knowledge they need. Therefore, in order to cope with the change of reading mode and the increase of knowledge cost, the digitization of current publications has entered a new development stage, and the digitization of traditional paper publications has become an inevitable trend. [1]

\begin{figure}[h]
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\includegraphics[width=\textwidth]{figure1}
\caption{Digital reading exposure rate of Chinese adults from 2008 to 2018.}
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\begin{figure}[h]
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\includegraphics[width=\textwidth]{figure2}
\caption{Scale chart of China's digital publishing industry from 2014 to 2020.}
\end{figure}
According to the 2018 national reading survey report, digital reading patterns of Chinese adults (including mobile phone reading and e-reader reading) have been on the rise for 11 consecutive years since 2008. According to the 2018 research report on China's digital publishing industry released by research consulting in March 2018, the overall scale of the digital publishing industry has been growing steadily since 2014, and is expected to exceed 7 billion yuan by 2020. Technology-enabled and technology-integrated have brought the publishing industry into the 3.0 era. Under this force, both in traditional publishing enterprises and the literature service providers are speed up the pace of their transformation in constant: the traditional publications "XINHUA dictionary" reference books was developing mobile APP containing rich media content such as audio, images, video, interactive class reading APP and it became a digital publishing sensation; On January 1, 2019, the platform of "XUEXI" ,which integrates free reading materials such as periodicals, ancient books, open classes, songs, operas, films and books, was officially launched. As a model of rich media knowledge service platform for party construction, it contains a large number of rich media content materials [2]. On the other hand, well-known knowledge service providers such as Elsevier and CNKI also transform a number of traditional academic journal resources into rich media. It can be seen that the trend of “Internet of everything” makes the publishing innovation transforming from traditional to digital in succession.

Wu sheng, an Internet expert, proposed that context should be as an important entry point to rock the logic of data flow in the era of PC [3]. With the new progress and development of related technologies, consumers' lifeway are transforming to highly mobility and fragmented. The media environment also presents characteristics of multi-entry, fragmentation and immediacy. The entrance logic with scene as the core gradually replaces the flow logic. In order to cope these matter by the mobile Internet, the context has become the main strategy of current decision makers. Rich media digital publishing is a kind of digital publishing mode with the attribute, which has great development potential.

The Status of Rich Media Digital Publishing

Digital Media

"Media" can be seen as an action field including some element, such as people, capital, technology, power and culture. "medium" is a collection and interaction process between these several elements. Its value lies in providing rich possibilities for inter embedding and transformation of different communication elements [4]. However, the definition of media has always been limited to the scope of mass communication, which is defined as a tool for the dissemination of ideology and values, and lacks the cross-development with other subjects.

The development of publishing media has always been dominated by paper media. However, with the emergence and promotion of the Internet, internet-based media are mostly presented in digital form which was been named as the digital media today [5]. Digital media is a way of recording and disseminating information in the form of binary number. It is composed of multiple elements and has the characteristics of strong interactivity, real-time and selective real-time. The strengthening of the concept of digital media coincides with the arrival of the context era. They are all used to support the analysis of user needs and are conducive to the integration of real-time and interactive performance [6].

Rich Media Digital Publishing Mode

Rich media digital publishing mode is mostly presented in the form of media convergence, which has the characteristics of man-machine interaction, enhanced expression content and dynamic real-time performance. To understand the concept of media convergence from the perspective of digital media: firstly, digital media is the basis of media convergence. Only after all media have been digitized and become basically similar information bits, can obtained the media convergence form. Secondly, media convergence is the result of the natural development of new media, so it will
become a strategic decision for the long-term development of emerging media in the country, rather than a temporary need.

Return to media convergence itself, what we commonly call media convergence is mostly just to display pictures, text, audio and video on the same page, which is only connects the media interfaces. To use an economic metaphor, we have been focus on the supply, but neglected the market. However, if the user market is ignored, than the media convergence will lose its fundamental significance. Therefore, analyzing the rich media digital publishing mode from the perspective of knowledge structure can better understand the meaning of media convergence.

Cultural communication is the essence of publishing [7]. The mode of rich media digital publishing is that rich media resources exert their publishing significance through computer technology in the environment of digital media. In addition, it has more elements than the other multimedia.

In the past studies, there is very little research literature on the analysis of rich media digital publishing from the perspective of context. Peng [8-9] believes that the essence of mobile communication developed on the basis of digital media is scene-based service, namely perception of scene and adaptation of information (service). Therefore, the basic elements that constitute the context are also can expansion of the mobile communication. At the same time, she also believes that social media, mobile terminals and big data are as the new technological factors that affect news production. Wei [10] puts forward that paying attention to the context revolution makes for accelerating media convergence and providing knowledge services for relevant user groups. At the same time, she pointed out that the context revolution is the internal driving force of the development of digital publishing company. Zhang [11] used Cite Space to analyze the current status of international publishing. The result reflect that media convergence is a research hotspot in the development of international digital publishing industry, and the research frontier is focuses on the cross-media publishing related to the social media. Deng [12] believes that the reading mode of mobile APP from the perspective of context is intelligent customization, humanization and sharing. In the past studies, scholars mostly explored the development trend of digital publishing from a macro perspective, but did not systematically elaborate on the rich media digital publishing mode. Therefore, this paper analyzes the rich media digital publishing mode based on the communication model proposed by the former.

The Influence of Context Elements on Rich Media Digital Publishing Mode

In the film and television, context is defined as an action taking place in a specific time and space, or a specific picture formed by the relationship between characters. In marketing, Kenny and Marshall define a context as a specific situation and the demand or emotional elements generated in it. From the perspective of communication, Peng sorted out the elements of the context: space and environment, real-time status of users, living habits of users and social atmosphere. Li [13] pointed out that the environment in which people interact with machines constitutes a context: When people perceive something, they perceive it as a whole, rather than an individual. However, the context mentioned in the press and publication industry mainly includes two parts: contextualization requirement and contextual. The former is based on users, and the latter aims at the published content itself.

From the contextualization requirement, The Internet breaks the limitation of time and space, leading to the transformation of context from the physical level to the thinking level. Information has been truly shared, and users have achieved participatory experience across time and space, thus giving birth to a participatory culture which is an attribute of the rich media publishing mode. Barrage is a typical with participatory culture attribute has been more and more recognized by publishers and users. It is a real-time and interactive comment mode born in the Internet environment and appears on video. In this communication mode, users are more concerned about the content they create in the process of participation. Video created after secondary creation actively stimulates users’ demand for immersive scene perception and experience.
Contextual is the process of describing user requirements and being satisfied, can be strengthened by social communication and mobile Internet under the constraint of certain time and space. The transmission value of context is all kinds of “power” generated in this process. In other words, it is not the media that gives value to content, but the dissemination of content that gives value to media. In the publication company, the application of artificial intelligence fully reflects this view. From the 15th national reading survey, it can be found that the growth rate of internet-based digital reading in China has far exceeded that of paper book, among which audio books are the champion. This means that the market demand has changed from the traditional publishing mode to the dynamic digital publishing. On the other hand, AR publications are also popular in the education market, which is a conduct of the combination of artificial intelligence technology and traditional books. It can effectively complement paper publications in content and form, expanding book capacity, enhancing the means of book expression, and interacting with readers to establish a new audio-visual linkage reading experience [14]. Both audio books and AR publications are inseparable from artificial intelligence technology. This technology is used to activate a large number of digital resource material content accumulated in the publishing industry [15]. It has to be pointed out that the environment of the development of artificial intelligence gradually permeates into our life. A good structured environment is the foundation of artificial intelligence development [16]. In a word, whether the barrage, audio books or AR publications, they all reflect that rich media digital publishing mode has more features due to the addition of context factors than traditional publishing. Based on the four elements of the context proposed by Peng, the author compares the differences between the rich media digital publishing mode with the traditional.

**Space and Environment**

A good publishing mode requires publishers to capture users' real-time service requirements in different time and space environments, so as to realize intelligent matching and pushing of knowledge and finally provide users with high-quality knowledge services. Compared with traditional publishing, rich media digital publishing mode can not only serve users' fixed reading context, but also meet the mobile reading context. The characteristics of fixed reading context are single and stable; it can be serviced by traditional publishing mode. However, Mobile context is different. The rapid transformation of space and time strengthens the particularity of mobile context, and each one brings personalized demand for users. For example, people could not read paper books while having breakfast in the past. But, today's rich media digital publishing mode can well solve this problem. On the basis of multiple media data sets, key technologies and electronic devices are equipped to provide effective knowledge services for people anytime and anywhere. People can get more reading experience from the audio books through such smart devices as Amazon Echo and Google Home.

Another feature of mobile context is that it divides users' requirements into three categories from the dimension of time and space: where they come from, where they are now, and where they are going. There is another difference between the rich media digital publishing mode and the traditional. With the support of time and space attribute information, (such as LBS, various sensors, big data technology and so on), this publishing mode can also meet users’ service demand in these three states. The typical is narrative publications, which can guide readers to stories that publishers want them to read. This has been beyond the reach of traditional publications. Johanna and Andreas, a Sweden couple, developed an application called "tourism" story. This APP connects users' geographic information through artificial intelligence technology. It turns reading into a treasure hunt in the city and the forest, allowing readers to experience the story more vividly [17].

**User Real-Time Status**

Rich media digital publishing mode mainly relies on electronic devices, including fixed devices and mobile service, to obtain users' real-time state. The technology includes such as sensors, big data, GPS and social media. People collect context information through mobile devices, and choose the way of information interaction according to it, so as to create a good information interaction experience. The rich media digital publishing mode with context attributes provides an entry for
people to achieve this goal. Breaking News, a famous foreign news website, uses GPS technology to push rich media news with specific geographical location information to users in a specific area, which also filters out information that is not required by this part of users and makes the intelligent knowledge service for targeted users come true. The rich media news client APP “I am on site” launched by Xinhua cluster news by the geographic location information, thus attracting users’ attention.

User Life Inertia

Users’ requirements under the concept of context are often relied on their previous life experience. In the rich media digital publishing mode, users’ living habits are recorded and collected in the form of data. Rich media digital publications have the characteristics and advantages of identifying and matching users through mobile devices to provide users with more personalized knowledge services. Well-known digital publishing service providers such as TouTiao and Flipboard have set up functions in their rich media digital publishing APP to provide users with news and hot topics they may be interested in according to their usage habits. This greatly increases the user's stickiness.

Social Atmosphere

The social atmosphere has an influence on people’s activities. Social atmosphere mainly rely on social media technology, which generate the social attribute of rich media digital publishing mode. From the above analysis, it can be found that the most important is the user, and the essence of social media is a way of connection. This connection even activates the user's context requirements, and the social communication with the link of knowledge community can be formed, which is also the development trend of knowledge services in the future.

Some scholars have conducted hotspot analysis on the forefront of digital publishing, and the research results show that since 2013, social media has become an important way of information dissemination on the Internet [18]. Meanwhile, the application of social media in the field of digital publishing promotes the development of digital publishing. Therefore, it has attracted the attention of a wide range of scholars and has become a hot issue in the field of international digital publishing research.

Social media has realized the decentralization of information dissemination. Interaction is the core power of social media. It generalizes the single communication subject to the interactive dialogue among individuals, organizations and society. Compared with the traditional publishing mode, the rich media digital publishing mode breaks the one-to-one or many-to-one communication mode instead of many to many.

Summary

History has proved that classification and distinction often exist the beginning of things, and the ultimate direction of development is the connection, interaction and increasingly blurred boundaries [14]. Traditional media focus on developing a single media, and the boundaries between various media are clear. Rich media puts more emphasis on blurring the boundaries between different media. Therefore, I also believe that rich media is not a specific form of media; it is more suitable to be defined as a concept. In other words, rich media can be defined as the ontology in the philosophical sense of publishing domain. Compared with exploring its own significance, the research on rich media is more important to discover its origin, law of development, application context and humanistic values generated in the process of studying it.

The essence of publishing is dissemination, expression and information transmission to the audience. Another way to look at the matter, the traditional publishing industry provides content (data resources), which is also the hotbed of the birth and development of rich media. In terms of content development, the overall general trend also tends to be the general use of media. Apple Inc. proposed and released the CMAF data format, aiming to unify various media. Therefore, I believe that the development of rich media is not how many media types you have, but how to better
integrate computer technology and digital content resources. Context provides a new idea of it, which is the internal drive development of digital publishing. The key to grasp the mobile Internet is to control the context.

In the past, publishing industry has been dominated by content thinking to meet users’ functional needs. In the era of mobile Internet, with the increasingly prominent personalized and emotional requirements, the way of product thinking is more valued by publishing enterprises. Therefore, grasping the core of rich media digital publishing mode and providing the corresponding knowledge services for specific users is the right way to realize the effective transformation of digital publishing.

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