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Research on Intelligent Transformation Strategy of Entity Bookstores Driven by Technological Innovation

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Abstract: *As a cultural symbol of a country and a nation, entity bookstores play a vital role in cultural dissemination and national enlightenment. In recent years, the entity bookstore industry, which once represented the urban culture, has emerged a tide of closure. The factors that cause the dilemma of entity bookstores include not only the external factors such as the rise of online bookstores, but also the internal factors such as the backward business model of entity bookstores. Entity bookstores must actively seek transformation to meet current challenges. This paper chooses ten representative chain brand entity bookstores in China at present, uses network survey and analysis statistics to analyze their development status, and puts forward digital solutions to the existing problems, and tries to analyze the "intelligent" transformation path of China entity Bookstore.*

Key words: *Physical bookstore; Digital technology; Intellectualization*

Introduction

In the Internet age, the reading environment and demand of the public have changed dramatically, the reading behavior and consumption behavior of readers have changed accordingly. Only by devoting to creating comfortable reading experience and scene sense, providing more cultural value-added services, and reconstructing the relationship with readers, can we have the better emotion communication with readers and get their approvals, thus leading readers back to physical bookstores. The coupling of innovation such as Internet, big data and artificial intelligence and policy of new technologies provides opportunities for the intelligent transformation of physical bookstores. In view of the problems of weak profitability, single channel and serious loss of readers existing in physical bookstores in China, many physical bookstores have begun to try to put forward intelligent solutions with the help of emerging technologies. Both state-owned bookstores and private bookstores have successful cases of transformation. The smoothness of online to offline channels, the application of big data and cloud computing technologies, and the maturity of AR and AI technologies provide an intelligent way for the transformation and upgrading of physical bookstores. In order to integrate the hardware and software fundamentally, physical bookstores need to recognize their real competitors and competitive environment, not only to reform the business thinking, business model and business mode in the transformation practice, but also to carry out business model planning and improve the "cultural power" of bookstores.

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Analysis of the Development of Physical Bookstores in China

With the advent of the Internet era and the development of digital technology, many new publishing formats have emerged. Under the impact of online bookstore, digital reading and knowledge payment, the traditional physical bookstores are declining, and they are in a very difficult situation. After 2015, with the continuous deepening of national reading promotion activities and the increase of national support, a number of distinctive physical bookstores have emerged all over the country, and the industry of physical bookstores in China has begun to pick up and show signs of revival.

Analysis on the operation of physical bookstores in China

The construction of physical bookstores can directly reflect the development status of physical bookstores in China. With the rise of online bookstores and the development of digital bookstores, the development of physical bookstores is difficult, and different strategic measures have been taken to deal with the tide of digitalization and networking. Some physical bookstores adopt the strategy of shrinking, closing and reducing the poorly managed branches to reduce the cost of manpower and rent, so as to reduce the loss; some physical bookstores adopt the business model of counter trend expansion, and dilute the operating cost by continuing to open physical bookstores. This paper intends to analyze the current situation of the construction of physical bookstores in China from two aspects: the profitability and distribution of physical bookstores.

Analysis of management efficiency. There are many kinds and brands of physical bookstores in China. The chain physical bookstores of different brands are influenced by their operation mode, main business and enterprise strength. The scale of bookstores also has obvious differences. The large-scale book city or reading experience center covers an area of thousands of square meters. For example, Lunan book city, built by Shandong Xinhua Bookstore, has a business area of 6000 square meters, a huge scale and complete functions (Zhang, 2018). Smaller physical bookstores, such as community bookstores, have single functions. The scale of bookstores can be divided into three aspects: land occupation scale, staff scale and business quota. In this paper, 10 representative physical bookstores in china are selected, and their construction scale is shown in Table 1.

Table 1 Construction scale of ten chain brand physical bookstores

Brand	Business area (m^2)	Number of employees (people)	Business line (RMB)	Plateau effect (RMB)	Per capita performance (RMB)
Sisyphe Bookstore	100,000	4,300	770 million	7,700	179,000
Yanjiyou Bookstore	78,662	1,091	500 million	6,300	458,000
CITIC Bookstore	18,889	716	306 million	16,200	427,000
New knowledge books	160,000	1,600	293.93 million	1,800	183,000
Friendship Bookstore	52,000	700	220 million	4,200	314,000
Weilan Bookstore	5,000	1,000	160 million	32,000	160,000

Huizhi Guanghua Bookstore	12,000	876	150 million	12,500	171,000
Shangshufang Bookstore	27,040	631	67.84 million	2,500	107,000
Xinhua "little orange lantern" Picture Book Museum	15,000	302	18.45 million	1,200	61,000
U-pin Bookstore	9,823	60	9.8 million	900	163,000

The data in Table 1 visually shows the scale of construction, performance and per capita performance of 10 bookstores. The top 7 are non-Xinhuazi brand bookstores with the highest turnover, and the latter 3 are the Xinhuazi brand bookstores with the highest turnover. The business area and number of employees of the ten bookstores vary, but in terms of ping efficiency and per capita performance, seven non-Xinhuazi brand bookstores are significantly higher than the Xinhuazi brand bookstores, indicating that the profitability of the Xinhuazi brand bookstores is lower Xinhuazi brand bookstore.

Table 2 and table 3 respectively list the Chinese top 10 bookstores in Plateau effect and the top 10 bookstores in per capita performance. Among the 10 bookstores with the highest turnover listed in Table 1, only 3 have entered the top 10 of the physical bookstores, namely,Weilan bookstore,CITIC bookstore and Huizhiguanghua bookstore. Only two of them are in the top 10 of the physical bookstores' per capita performance,namely Yanjiyou bookstore and CITIC bookstores. This shows that although the chain stores with large brands have a huge financial and material basis, there are still problems such as insufficient profitability and low efficiency.

Table 2 Top 10 in the list of floor efficiency of physical bookstores

Ranking	Brand	Plateau effect (RMB)
1	Blue Bookstore	32,000
2	Hongdao culture	20,000
3	CITIC Bookstore	16,200
4	Huiwen Bookstore	16,000
5	Taozhi Bookstore	15,300
6	Huizhi Bookstore	12,500
7	Hangzhou Xiaofeng Bookstore	10,000
8	BCMIX	9,000
9	Mao Mi Cafe	8,600
10	Jingguang Shangyue	8,000

Table 3 Top 10 per capita performance of physical bookstores

Ranking	Brand	Per capita performance (RMB)
1	Jingguang Shangyue	750,000
2	Wenxing Bookstore	625,000
3	Hongdao culture	600,000
4	Niuzi niushu Museum	544,500
5	Huiyuan Book City	484,400

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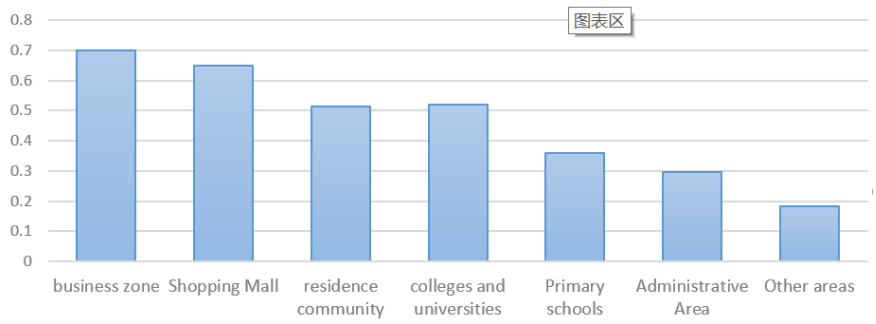
6	A few words	458,300
7	Fenglin evening	428,600
8	CITIC Bookstore	427,400
9	Fengyasong Bookstore	399,100
10	Humanities books	366,700

Analysis of distribution. The spatial distribution of physical bookstores includes geographical distribution and site distribution. Geographical distribution mainly refers to the distribution differences of physical bookstores in different provinces, economic zones and cities and villages. Site distribution refers to the distribution difference of physical bookstores between different functional areas of the city. Through the survey of the official website home page, it is found that the distribution of the above 10 physical bookstores is mainly concentrated in the central and eastern regions of China, among which the five cities with the largest density are Beijing, Chengdu, Chongqing, Guangzhou and Shanghai. From the overall distribution of physical bookstores in China, the number of physical bookstores in cities with more developed economy and culture is the majority and the distribution range is wide; in cities with relatively backward economic and cultural development, especially in urban areas, the distribution is scattered and the number is relatively small. From the geographical distribution of physical bookstores, the number of distribution in the eastern region is significantly higher than that in the central and western regions, with obvious regional differences (Sun, 2018).

According to The information released in the 2018-2019 China physical bookstore industry report (as shown in Figure 1), the distribution of physical bookstores in China is mainly concentrated in the vicinity of commercial areas, shopping centers, universities and residential areas. This traditional layout mode only considers the size of the flow of people, but ignores the specific factors such as reading habits, consumption ability and interest preference of the populationAs a result, the actual operation status of bookstores is not good. The development and change of the city is also an important factor for the physical bookstores to consider. Xinhua Bookstore, once a cultural landmark of the city, was in the center of the city at the beginning of its establishment. However, with the change of the city, the original location advantage is no longer obvious. At this time, we should take into account the population flow, geographical location and other factors to re-establish the site, expand the market, and form an ecological circle of positive interaction between culture and economy.

Figure 1 Distribution of physical bookstores



Analysis of the online channels of physical bookstores in China

In the Internet era, the online and offline linkage of physical bookstores has become a trend. Through online promotion and sales, physical bookstores can make up for the lack of offline channels, and the reading and cultural activities of offline bookstores can enrich and enhance the reading experience of readers. Physical bookstores can gather fans through official account numbers such as WeChat, micro-blog, bean paste and know you, and send the latest book information and promotional information to the audiences in real time, and online audiences will be drained into the offline line to become a loyal reader of the bookstore (Ren, 2017). Through the online shopping mall or e-commerce platform, the promotion and sales channels can be broadened, which can not only cross the sales restrictions of time and space, but also increase the sales of slow-moving books and regular books to a certain extent, and reduce the inventory pressure of physical bookstores.

Analysis on the current situation of online promotion. With the rapid development of the Internet, the audience has been refined, and gradually become an independent individual with distinct personality. Some individuals have the same interests and hobbies and become a social group with mutual connection. This group has the characteristics of high degree of aggregation, high efficiency of communication and convergence of actions (Lian, 2016). Wechat, Weibo, Zhihu and other self media platforms are also emerging and rising based on the continuous segmentation of the audience. Online promotion of physical bookstores is the use of such a self media platform, the registration of the official account, through the publication of related articles and dynamic form a huge community foundation, forming a benign interaction between online and offline. In the promotion process of online bookstore, the analysis is mainly conducted from the official account number of WeChat, the frequency of official account content, the amount of attention and the amount of interaction (numbers of like, commentaries). As shown in Table 4.

Table 4 Online promotion status of ten chain brand physical bookstores

Brand	Type	Weekly content updates	Average page views (nearly 10 articles)	Average forwarding volume (nearly 10 articles)	Is there any new book promotion information
Sisyphe Bookstore	Subscription r + service	7- 10 articles	4358second	18.6second	√
Yanjiyou Bookstore	-	-	-	-	-
CITIC Bookstore	Subscription	12- 14 articles	10001.6second	18.9second	×
New knowledge Bookstore	Subscription	13- 19	221.2second	2.1second	×
Friendship Bookstore	-	-	-	-	-
Weilan Bookstore	Subscription	5piece	11.4second	0.3second	√
Huizhi Guanghua Bookstore	Subscription	5- 8	1094.9second	4.1second	×
Shangshufang Bookstore	Subscription	0- 1	182.6second	1.2second	×

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Xinhua "little orange lantern" Picture Book Museum	Subscription	5- 7	128second	1.1second	√
U-pin Bookstore	-	-	-	-	-

Seven of the top ten chain brand physical bookstores listed in the table above have registered WeChat public accounts and continue to update their content and dynamics. This shows that driven by information technology, physical bookstores are very focused on online communication and promotion , Actively broaden channels to achieve online and offline integration of marketing strategy; in terms of average number of article views and average number of likes, most of the public account's average number of views maintained at more than 200 times, but the average number of likes is far Far below the page views, there is a problem of insufficient conversion rate. This shows that although the public account of the physical bookstore has gathered a part of online audiences, due to problems such as unclear user portraits, inaccurate audience positioning and uneven quality of articles, it has failed to attract the interest of most audiences and formed a sticky user group; In terms of online information promotion, apart from the new book promotion and sales information of the Sisyphus Bookstore, Weilan Bookstore and "Little Orange Lantern" Picture Bookstore, the public accounts of the other seven chain brand bookstores do not publish bookstore book promotion information, which shows that most of them Physical bookstores still have deficiencies in online promotion.

Analysis on the current situation of online marketing. In the Internet age, the primary problem faced by physical bookstores is the impact of online bookstores. Under the pressure of more and more developed network, more and more secure online shopping, more and more common, low price, good service quality, and convenient retrieval, physical bookstores have become "pre selection market" or "sample showroom" from the final place of purchasing books in the hearts of readers (Yang, 2015). In order to get rid of the current difficulties, physical bookstores can try to transform and develop online, combine the advantages of physical bookstores with Internet, big data and cloud computing technology, create online bookstores and expand sales channels. The author explores the current situation of online sales channels of ten major chain bookstores by browsing official website, official account and Internet search. As shown in Table 5.

Table 5 Research on online marketing channel construction of top ten brand chain physical bookstores

Brand	Wechat shop (yes / no)	App (yes / no)	E-commerce platform (yes / no)	Category quantity (more / less)	Characteristics
Sisyphe Bookstore	√	√	×	many	Membership system: online members can enjoy offline rights and interests
Yanjiyou Bookstore	×	×	×	nothing	nothing
CITIC Bookstore	√	√	√	many	Perfect online channel construction, with franchise stores on all major platforms
New knowledge Bookstore	×	√	√	many	Major in children and teaching assistant Publishing

Friendship Bookstore	×	×	√	less	Build a platform independently and set up an online bookstore
Weilan Bookstore	√	×	√	many	Not only set up franchise stores through e-commerce platform, but also independently set up "blue net" franchise online sales
Huizhi Guanghua Bookstore	√	√	√	many	In addition to books, Wechat stores also sell daily necessities
Shangshufang Bookstore	√	×	×	less	In addition to books, Wechat store also sells cultural and creative products
Xinhua "little orange lantern" Picture Book Museum	×	×	×	Nothing	nothing
U-pin Bookstore	×	×	×	Nothing	nothing

Among the top ten brand chain bookstores listed in the table above, 7 chain brand stores have set up online bookstores through Wechatstores, apps or e-commerce platforms, indicating that physical bookstores in the digital and information age have begun to use computer technology to develop lines Go to the channel, and began to try to adopt the online to offline business model; in terms of the number and type of book commodities, it still cannot be compared with traditional physical bookstores or online bookstores such as Dangdang and Jingdong. This kind of "extensive" operation and management has problems such as the number of books, sparse types, unreasonable web page layout and complicated user operations, which greatly reduces the user experience, which reflects that some physical bookstores have not yet given online channels to bookstores. Sufficient attention; the survey found that the seven non-Xinhua brand bookstores in the table basically have online sales platforms such as micro-shops and e-commerce, while only one of the three Xinhua sub-brand stores "Shangshufang Bookstore" has set up a micro-store Stores, the establishment of the other two online channels is still blank, which shows that the state-owned physical bookstore with Xinhua Bookstore as the core Bookstore transformation and upgrading and utilization of new technologies should be less in the private bookstores

Analysis of the business model of physical bookstores in China

Under the wave of new-retail, the sales function of physical bookstores is gradually declining, and the business model is constantly changing. In this environment, traditional bookstores began to chang from a single book exhibition mode to a compound "Cultural-Mall" mode.

Analysis on business scope. The new physical bookstores such as Yanjiyou Bookstore, Sisyphe Bookstore and Chengpin Bookstore all have the same characteristics: new business model, basically following the model of bookstore + coffee + creative culture (Zhou, 2019). This paper explores the business scope of the ten major chain physical bookstores by browsing official website, Wechat public account and Internet search. As shown in Table 6.

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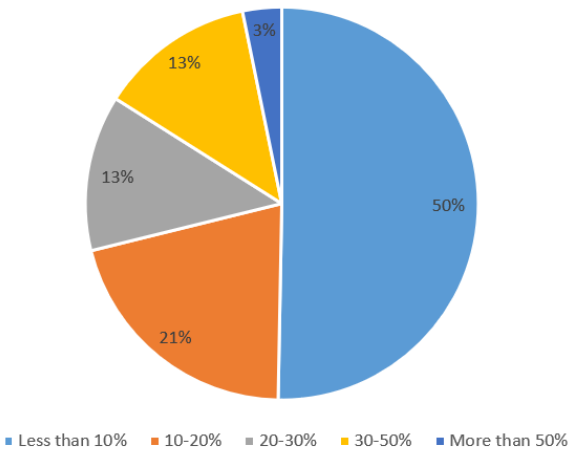
Table 6 Business scope of ten brand chain physical bookstores

Brand	Scope of business
Sisyphe Bookstore	Books + coffee + cultural products + stationery + offline reading and listening courses
Yanjiyou Bookstore	Book + coffee + cultural products + Art Gallery
CITIC Bookstore	Books + audio and video products + coffee + cultural products + Souvenir
New knowledge Bookstore	Books + audio and video products + stationery
Friendship Bookstore	Books + sporting goods + Musical Instruments+ Art supplies
Weilan Bookstore	Books + audiovisual products
Huizhiguanghua Bookstore	Magazine
Shangshufang Bookstore	Books + catering + stationery
Xinhua "little orange lantern" Picture Book Museum	Picture book + stationery
U-pin Bookstore	Books + stationery

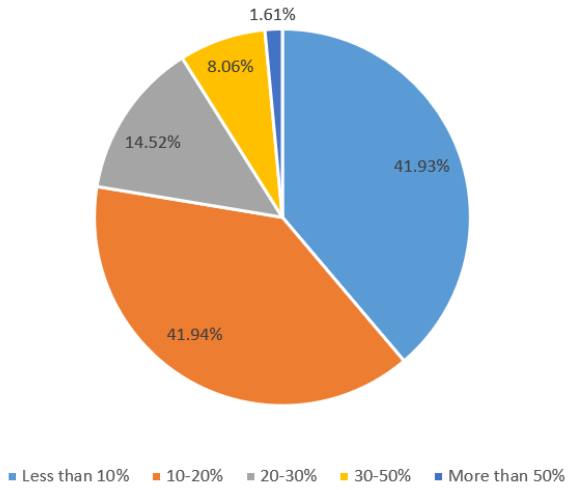
The top ten chain brand bookstores listed in the table above have all expanded the main business of bookstores in varying degrees, basically following the compound mode of "books + catering + cultural products". It shows that the physical bookstores in China have begun to actively seek transformation and explore the road of diversified development under the background of the industry downturn.

Analysis on sales proportion. According to the 2018-2019 Industrial Development Report of Chinese physical bookstores industry released by Baidao, among 62 physical bookstores participating in the survey, 10 bookstores account for more than 50% of the sales of coffee and catering businesses (as shown in Figure 2), and 15 bookstores account for more than 30% of the sales of cultural and creative products (as shown in Figure 3), and this proportion is still rising year by year. This shows that Chinese physical bookstores are changing from the 1.0 era of only selling books to the era of "bookstores plus" 2.0 era of integrating into other formats. The business scope is expanding and the business form is gradually diversified.

Figure 2 Proportion of catering sales in total sales of bookstores



Figuren 3 Proportion of stationery sales in total sales of bookstores



According to figure (2) and figure (3), the proportion of catering sales and stationery sales of physical bookstores in China are basically below 20%. Among them, 45.16% of bookstores catering business accounts for less than 10%, 41.94% of bookstores stationery sales account for 10-20%. This shows that physical bookstores in China are actively expanding their business scope, in addition to book sales, they are also actively developing catering, entertainment, cultural and creative stationery and other businesses. However, the business model of "Book Plus" is not yet fully mature. At present, it still faces problems such as low sales proportion of sub business and less prominent business functions.

Analysis of the Difficulties and Causes of the Development of Physical Bookstores in China

Chinese physical bookstores, especially private physical bookstores, are under great pressure. In 2011, Photosynthesis bookstore, the largest private Bookstore chain in China, was closed, and representatives of Beijing Fengru song and other humanities bookstores were closed, leaving the market. Shanghai monsoon bookstore and Beijing unidirectional Street Bookstore are also unable to maintain due to high rent and other reasons, so they moved away from the busy road (Liu, 2014). Through the analysis of the operation status of the top ten chain brand bookstores, it is found that at present, the physical bookstores in China are mainly faced with three major problems: insufficient profitability, serious reader diversion and weak sales function.

Insufficient profitability

Profitability is an important indicator to measure the strength of a bookstore and an important factor to realize the sustainable development of the bookstore. Only when bookstores make profits, can we expand the scale of bookstores, optimize the design of bookstores, increase the category and quantity of books, and provide better reading experience for readers. Therefore, how to make profits is the primary consideration of physical bookstores, and the lack of profitability has become the main factor restricting the development and expansion of physical bookstores in China. If physical bookstores want to achieve profitability, the turnover per square meter should be at least 10000 yuan (Fu, 2015). Among the top ten chain brand bookstores

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surveyed, only CITIC bookstore, blue bookstore and Huizhi Guanghua achieved a floor efficiency of more than 10000 yuan, which shows that most of the physical bookstores are lack of profitability. This is mainly caused by high operating costs and single sales channels.

High rent pressure and high operating cost. Compared with online bookstores, physical bookstores need to pay extra house rent, employee salary and business tax to maintain the actual operation of bookstores, resulting in a substantial increase in the operating costs of physical bookstores. Among them, house rent is the most important factor for the rise of operating costs of physical bookstores. Old state-owned bookstores, such as Xinhua Bookstore, can barely maintain their operations under the support of state subsidies and policies, but more private bookstores and independent bookstores have to face the capital shortage caused by the rising rent. With the development and expansion of urbanization, if physical bookstores want to gather traffic, they must set up stores in the business district, residential area and near the school in the city center, which must face huge rent pressure. According to the survey, the rent expenditure of private bookstores accounts for 30% - 40% of the total turnover, which makes it difficult for the profit chain to operate properly (Han, 2019). In order to alleviate the pressure of house rent, some bookstores set up their stores in the development zone or industrial zone with low rent on the edge of the city. These areas not only have a small flow of people, but also have a low demand for books. As a result, the flow and sales volume of bookstores have been greatly reduced, gradually marginalized and in a vicious circle.

In addition to house rent, employee compensation is also a major expenditure of physical bookstores. The quality of bookstore staff has a direct impact on the readers' purchase and reading experience. It is known as "walking living book", and it is a concentrated display of the brand and image of the bookstore. Physical bookstores are also faced with a dilemma in terms of employee recruitment. The number, comprehensive quality and salary of employees should be comprehensively considered.

Single sales channel and insufficient promotion. Channel is the foundation of industry. Only when the channel is developed can the industry be firm. The physical bookstore industry must continue to expand new channels to achieve development. According to the 2018 report on Chinese book retail market released by Kaijuan.com, the sales volume of online bookstores in 2018 was 57.3 billion yuan, an increase of 24.7% year on year. Physical bookstores sold 32.1 billion yuan, down 6.69% year on year. This shows that the distribution ability of network channel is much higher than that of physical bookstores. The operating cost of online bookstores is far lower than that of physical bookstores. Network channels can not only increase the sales volume, reduce the inventory pressure of physical bookstores, but also help the sales of slow-moving books and long-term books. Among the top ten brand chain bookstores surveyed, all brand bookstores have generally achieved growth in online store sales channels. The difference is that bookstores have been involved in online channels sooner or later, the scale of sales has been large or small, and the growth rate varies greatly. Although seven of them have opened online sales channels, they have adopted the "extensive" business management mode. The number, types, promotion and disclosure of books in online bookstores are insufficient. The development and utilization of online channels in three new huazi brand bookstores are backward, which shows that physical bookstores do not pay enough attention to online channels.

Serious reader diversion

In the digital age, the readers of physical bookstores are constantly diverted by new media. Paper books

used to be the most important form of books. Physical bookstores are also the most important reading and purchasing channels for people. However, with the advent of the digital era and the development of Internet technology, people's reading habits have changed, interests and hobbies have gradually broken down, and the demographic dividend of physical bookstores has quietly disappeared.

With the advent of the Internet age, reading habits have changed. Digital information technology has brought a significant change to the traditional reading, that is, the change of reader's reading style and reading habits. According to the data of the 15th national reading survey report, 45.1% of adults are more inclined to read a paper book, while 54.9% are more inclined to use mobile phone reading, online reading and other digital reading methods; in 2017, Chinese digital reading exposure rate was 73%, with an average growth rate of 4.85% in the past decade; the average daily reading time of paper books is 20.38 minutes,The average Wechat reading time is 27.02 minutes per day. This shows that people's reading habits are constantly changing to fragmentation and digitization, and the original paper-based reading is constantly squeezed by digital reading. At the same time, the development of digital technology has also spawned many new publishing formats. E-books meet the needs of people to read anytime and anywhere. The combination of VR, AR technology and books enhances the reading experience of readers. The emergence of audio books has changed the traditional reading mode. Therefore, the traditional physical bookstores based on paper-based book reading have been difficult to meet people's digital and diversified reading needs.

Unclear target users causes low viscosity of users. The lack of clear positioning of readers is also an important reason for the diversion of physical bookstores. Physical bookstores can not subdivide the users, so as to provide personalized services, resulting in low user viscosity of readers. In the ten major chain bookstores, the frequency of official account and the love volume of bookstore are high, but the reload is very low, and they are not subdivided into users, so they can not be recommended according to their personalized preferences. At the same time, in the era of advocating the supremacy of users, the choice of books should not be based on the experience of operators, but on the preferences of readers. Many physical bookstores have not yet changed their business philosophy from B2C to C2B. They choose books Subjectively or just blindly follow the trend. They choose so-called "best sellers" or "Online bestsellers" in large numbers, which not only causes the serious phenomenon of unsalable books, but also causes many readers unable to buy the books they need in physical bookstores.

The main functions of bookstores are weakening

With the development of digital technology and Internet technology, the sales function of physical bookstores is also weakening. Once the main business of physical bookstores was book sales and book leasing. The rise of online bookstores not only breaks the time and space restrictions of people's purchase of books, but also provides readers with a richer variety of book categories, so reader's purchase habits have also changed. Nowadays, physical bookstores are changing from reading space to cultural space. This is mainly caused by reader's consumption upgrading and demand diversification.

Diversified functions of bookstores. Consumption upgrade triggered by personalized demand,the traditional offline reading has been difficult to meet the needs of readers. New physical bookstores often adopt more diversified marketing methods. Diversified marketing activities means Bookstores focus on book management, develop and innovate related products around book management. In the transformation of

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physical bookstores, these diversified business activities are widely used. In addition to the more common business, bookstores also sell other related commodity (Luo, 2018). Some enterprisers with a sense of responsibility adhere to the development concept of giving priority to selling books, supplemented by other forms of business, so as to achieve both social and economic benefits. But there are also some bookstores with the purpose of profit, which regard buying books as a cover and sideline. Book sales only account for a small proportion. They buy less books, or even do not sell books so that other business forms become the main business, The cultural service function of these bookstores has weakened.

The needs of readers are Individual. Different readers have different requirements on the types, time and ways of reading or purchasing books. Traditional physical bookstores mostly follow fixed business hours, which can meet the needs of most readers, but also ignore the needs of some special readers. With the rapid development of social economy and the acceleration of life rhythm, China has already become a "country of overtime". According to a survey from UBS group,Chinese working hours rank seventh in the world, and Hong Kong's per capita working hours rank first in all regions and countries. Didi travel Media Research Institute and Yunnan Baiyao carried out a joint survey on urban white-collar overtime. The data shows that the peak hours of off-duty nights in Beijing, Shanghai, Shenzhen, Guangzhou and Hangzhou are around 22:00. Obviously, the traditional operation schedule of physical bookstores has been difficult to match with the work and rest time of the contemporary working class.

The Intelligent Transformation Strategy of Physical Bookstores in China

The intelligent transformation of physical bookstores refers to use the Internet, data mining, big data, cloud computing, artificial intelligence and other advanced technologies to solve the problems of insufficient profitability, serious reader diversion and weak sales functions faced by physical bookstores in China. This paper attempts to analyze and study the "future Bookstores" in China from the "bookstores plus" era of 2.0 to the "future bookstores plus" era of 3.0"Mode conversion.

Cloud computing + physical bookstore: scientific site selection

Scientific site selection is very important for the development of physical bookstores. The location of physical bookstores should be selected through market investigation and analysis,cities and regions that meet certain conditions for opening stores should be selected. The investigation and location work should be carried out according to the corresponding parameter indexes, such as population base, economic benefit, income level, consumption ability, competition in the same industry, logistics management, operation cost, etc. through comparison, screening and exclusion, the order of opening cities should be arranged and determinedDevelopment goals (Shi, 2015). By using big data technology and cloud computing technology, the population base, house rent,consumption level and other indexes in the region are comprehensively analyzed. Combined with the in-depth learning model in artificial intelligence, the computer can simulate and calculate the cost, income, sales volume and other information of store opening, predict the distribution area and consumption preference of customers, tap the regional potential, and form the analysis, evaluation and construction of store locationIt can not only maximize the income of bookstores,but also help bookstores to make reasonable management strategies.

At present,there are cases at home and abroad where physical bookstores rely on big data and cloud computing technology to assist bookstores in site selection. Dangdang.com began to lay out offline physical bookstores in 2015. As of 2018, there are 160 new retail physical bookstores in China. The location of offline bookstores in dangdang.com refers to book sales and big data reading. According to the customer group structure of different cities and regions, intelligent address selection has greatly improved the operation efficiency of bookstores. In recent years, Amazon, a leading foreign e-commerce company,has also actively deployed offline bookstores. Through the analysis of the user data accumulated by e-commerce platform over the years, the site selection can be realized, the bibliography can be selected and the personalized management strategy can be formulated, and remarkable results have been achieved. Amazon is using data analysis and cloud computing technology to completely transform the retail model of physical bookstores.

Big data + physical bookstore: help precision marketing

Precision Marketing driven by big data technology driven can be defined as data-driven marketing, that is, to drive users to actively participate in single to single precision and efficient marketing. On the basis of big data, analyze the prediction results obtained by big data mining,and encourage users to actively participate in and optimize the process and results of improving marketing (Feng, 2015). Precision marketing based on big data technology was first applied in the field of e-commerce. Each major e-commerce platform digs and analyzes the user data and calculates the preferences of different users, so as to realize the accuracy of push content and personalized service. As an offline channel, physical bookstores also have a large number of user data, so physical bookstores can also follow the example of online bookstores, using big data technology to predict sales and calculate readers' preferences, so as to carry out accurate marketing and improve the efficiency of bookstores.

At the same time,there are many limitations in the use of big data technology to analyze user behavior in physical bookstores, which are mainly manifested in the difficulty of user data acquisition and the lack of big data mining and cloud computing technology. In contrast, the development and maturity of e-commerce platform precision marketing have advantages in data and technology. Chain brand physical bookstores can take the way of cooperation with e-commerce platform to obtain technical support, and then combine their own specific situation to develop precision marketing programs. At present,there have been successful cases in China. Alibaba cloud announced to sign a strategic cooperation agreement with Xinhua Internet,a wholly-owned subsidiary of Xinhua bookstore. This cooperation will integrate the resources of the whole industry chain of Xinhua Bookstore,including 12000 stores and 3000 large and medium-sized libraries in China, plus 584Publishing agencies, etc.are used to build Xinhua smart bookstore and provide users with personalized consumption needs.

Internet plus physical bookstore: broaden marketing channels

The development of digital reading and online bookstores makes the traditional physical bookstores’s users diverge seriously. In this context,physical bookstores can use Internet technology to actively open up online channels to make readers change from online to offline. First,the physical bookstore can actively participate in the construction of the public account of the media platform, register the official public account on WeChat, micro-blog, know and bean paste and pay attention to the construction of its own characteristic resources, so as to gather a group of online fans with brand loyalty,and accumulate the fans foundation for physical

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bookstore. After having a certain amount of online fans,online popularity can be drained to offline bookstores by some means, such as online pre notice and promotion of offline reading activities, online members enjoy offline book purchase discounts, etc.to realize the linkage of online and offline activities, form online and offline closed-loop, and constantly tap the new increment of offline physical bookstores.

At present, many domestic chain entity bookstores have adopted the O2O mode of "Internet + physical bookstore", which has realized the growth of offline Bookstore traffic. As the largest domestic physical Bookstore brand, xixiver Bookstore pays special attention to the construction of online channels. The official account and marketing number of WeChat not only push the content for readers, but also give the new book notice,offline activity notice and membership function. Its official account of WeChat has nearly 5000 visits, which has accumulated a large number of online fans with brand loyalty for bookstores.

VR+physical bookstore:enhance reading experience

In recent years, the application of augmented reality technology and virtual reality technology in the field of publishing has also made great progress. VR technology can greatly improve readers' reading experience. With the development of technology and the upgrading of user experience,VR reading is expected to become a new growth point for physical bookstores. The application of VR technology in physical bookstores is not only an innovative marketing method,but also an interactive experience for readers. In this context,physical bookstores can try the mode of "VR + physical Bookstores". VR scenes are mainly used in three kinds of modes at present: "VR + physical Bookstores", "VR + virtual Bookstores" and "VR + physical and virtual Bookstores" (Mo, 2017).

The application of VR technology in physical bookstores has precedents at home and abroad. In 2008,VR technology was first applied to physical bookstores,Zoomii bookstores put this concept idea into practice. However,due to the immaturity of technology at that time, Zoomii bookstores only realized the visualization of virtual bookstores, and readers can use function keys such as direction key, book classification, and book search to experience. This experience is relatively elementary and does not form a good user experience (Hao, 2017). However,this practice promoted the development of "VR + physical bookstores"in the later period,laid a good foundation for them, and provided an important reference. In 2014,the rapid development of science and technology brought dividends to many industries, and the vigorous development of VR + physical bookstores began from this time. During the promotion period,the integration of"VR + physical bookstores"is mainly based on entering the experience hall,or shooting panoramic VR images,or making a video version of physical bookstores. This way is for the marketing preparation,can bring the fresh feeling for the readers, thus can promote their purchase of books. Some physical stores spend a lot of money to create panoramic VR images for readers to read books through mobile phones.

AI Technology + physical bookstore: to meet individual needs

"Artificial intelligence + physical bookshop"has promoted a large number of "Smart Bookstores"and "24-hour Bookstores". Its essence is to combine innovative technologies such as self-service settlement system, full intelligent commodity recognition, action recognition and anti-theft system, face recognition with traditional physical bookstores. The bookstore is served by intelligent robot on duty,from greeting,inquiry to sales collection. This convenient service mode brings readers a new experience with a high-tech sense.

The characteristics of the intelligent bookstore are: based on the shared reading mode,it is open 24 hours, fully automatic and self-service. At the same time, it also brings low-cost and convenient user experience to the readers. When readers enter the bookstore door, they can“ scan face”to bind their own Alipay account and open a secret free payment. If you choose a book to buy, you will go to the payment channel, and the system will automatically settle accounts and realize the senseless payment. No matter the high-tech or the full intelligent operation mode, the development trend of the integration of traditional business and new technology, or the different reading experience for readers, the self-service bookstore is full of freshness (Yuan, 2018). In recent years, smart bookstore has made rapid development in China. The first artificial intelligence bookstore-“Xinhua Life +” built by beixin.com, a subsidiary of Beijing Distribution Group,opened in 24 hours, integrating self-service settlement system, product recognition, remote customer service assistance, action recognition and face recognition technology, realizing 24 hours unattended operation; the first 24-hour self-service cultural bookstore--“Temei tea and book store”has operated in Hangzhou. Readers have free access by sacning face or private mobile phone. The largest self-service bookstore in China-“Abu's bookstore” is also opened in Shenzhen. Readers can enter the bookstore by scanning codes, accurately locate books through Internet of things intelligent identification technology, and settle accounts through induction and wechat payment.

Epilogue

The development of science and technology has profoundly changed the lifestyle and habits of contemporary people. Internet and digital technology are both an opportunity and a challenge for the publishing industry. Physical bookstore is not only the harbor of people's mind, but also the cultural symbol of a city and a country. The survival dilemma of physical bookstores is formed by the development of social economy to a certain level. Bookstores operators must be more brave to use Internet, big data, artificial intelligence and other technologies to realize the intelligent transformation of bookstores.

References

Zhang, Z.Q. (2018). Review of China Publishing. *Editorial Friend*, (02), 11-17.

Sun, Q. (2018)."Wisdom" publishing: the reality and development of Chinese and foreign physical bookstores. *News Research Guide*, 9(04), 220, 223.

Ren, J. (2017). Key points and measures of strategic transformation of physical bookstores in China from the perspective of Shanghai sample—Analysis Based on the two-dimensional matrix of "book store". *Publishing and Distribution Research*, (07), 45-49.

Lian, N. (2016). Research on business model of community-based physical Bookstore. *Editorial Friend*, (06), 73-76.

Yang, H.P. (2015). *Management of Modern Publishing Industry*. Beijing: Beijing Jiaotong University Press.

Zhou, Y. (2019). A study on the transformation of traditional bookstores in the context of new retail. *Modern Marketing*, (03), 87.

Liu, R.T. (2014). Research on the dilemma and Countermeasures of physical bookstores. *Science-Technology and Publication*, (05), 168-172.

Fu, L. (2015). Countermeasures for physical bookstores to get rid of difficulties: an investigation and analysis of 17 physical bookstores in Tianjin. *Operation and Management*, (12), 39-40.

Han ,X. (2019). Research on Development Strategies of physical bookstores in the context of new retail. *China Publishing*, (01), 49-52.

Luo ,X.Y. (2018). Analysis on the strategy of physical Bookstore activity based on 4C theory. *Journal of Guangdong Open University*, 27(03), 84-89.

Shi, G.Y. (2015, August 26). The site selection of bookstores is particular. China Press, publication, radio and television, p. 11.

Feng, Z.Q. (2015). Information operation, maintenance and precision marketing of online bookstore in the era of big data. *Science-Technology and Publishing*, (01).

Mo, J.Q. (2017). Research on VR scene application in physical bookstores. PhD. Dissertation. Nanjing: Nanjing University.

Hao, Y. (2017). The prospect of VR scene in physical bookstores. *Information and Communication*, (12), 59-60.

Yuan, S. (2018, February 28). Channel upgrading: business model and multiple profit model of unmanned Bookstore. Zhonghua Reading Daily, p. 6.

Appendix

Research Introduction

The times are updating, and bookstores are beginning to modernize. It not only inherits the tradition, but also keeps pace with the times. In recent years, under the influence of online bookstores, the development of physical bookstores is not optimistic, with negative growth for many consecutive years. Many well-known physical bookstores at home and abroad have closed down or reduced their scale. The author studies the current situation of the development of large-scale chain brand physical bookstores in China, analyzes the challenges faced by the physical bookstores in China, and explores the transformation path of the physical bookstores in China from the 2.0 era of "bookstores +" to the 3.0 era of "smart Bookstores".

Research object

Based on the 2018-2019 China physical bookstore industry report, this paper selects ten representative chain brand physical bookstores (including 7 non Xinhua sub brand bookstores and 3 Xinhua sub brand bookstores), and analyzes the current development status of China's physical bookstores from three dimensions of business status, channel construction and business scope.The ten chain brand physical bookstores and their basic information are shown in the table below:

Basic information of ten chain brand physical bookstores

Bookstore brand	Location of head office	Time of establishment	Official website link
Sisyphe Bookstore	Chongqing	1993	http://www.sisyphe.com.cn/index.html#aboutAnchor
Yanjiyou Bookstore	Beijing	2014	http://www.yanjiyou.com/
CITIC Bookstore	Beijing	2008	http://press.citic/html/womendeyewu/cbr/192.html
New knowledge books	Chengdu	-	http://www.xinzhi.com.cn/BooksInfo.aspx
Friendship Bookstore	Shenzhen	1991	http://www.yoyibook.com/info.aspx?id=1
Blue Bookstore	-	2000	https://www.wl.cn/aboutus/toaboutus
Huizhiguanghua Bookstore	Beijing	2005	http://www.huizhiguanghua.com/
Shangshufang Bookstore	Henan	-	http://www.hnxhbook.com.cn/

Xinhua "little orange lantern" Picture Book Museum	-	-	-
U-pin Bookstore	Kunming	-	http://www.ynbookexpo.com/zzjg.aspx?id=793

Research methods

Internet survey: when collecting relevant data from bookstores, it mainly collects relevant information and data for research by accessing its official website and official account of WeChat.

Literature survey method: consulting and quoting the literature materials in databases such as CNKI, Wanfang database and Baidu academic database to support and enrich the relevant viewpoints.

Statistical analysis: collect the data of bookstores and express them in the form of tables or icons, so as to analyze the development and challenges of bookstores more intuitively.

Case analysis: taking ten chain brand physical bookstores as examples, this paper analyzes the development of physical bookstores in China. When stating the development predicament and transformation mode of bookstores, it also extensively enumerates the cases of domestic and foreign physical bookstores.