

**The Dilemma of Brick-and-Mortar
Bookstores: An Exploration of Trends,
Consumer Motives and Perceptions, and
Possible Paths to Sustainability**

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— *Review of* —
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ABSTRACT

This study explores how digitalization has impacted brick-and-mortar bookstores as well as book consumers' motives and perceptions in China. Digitalization such as the development of Internet-accessible literature has brought profound changes to the production and consumption of printed materials. Digitalization is also threatening brick-and-mortar bookstores' position in the business value chain. Many physical bookstores have subsequently closed down and those remaining must seek ways to compete with e-books in the technology-enabled marketplace. Primary data were collected through an online survey. Quantitative research, including descriptive and inferential data analyses based on the survey data, was conducted to assess the respondents' reading patterns and their perceptions about physical bookstores' role in creating values for book consumers. The findings indicate that physical bookstores could continue to create values and remain to be a viable business. However, their sustainability requires transformation, adaptation, and innovation. Suggestions are provided for further research.

Keywords: Digitalization; Brick-and-mortar; Bookstores; Business transformation.

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1. INTRODUCTION

Since the mid-1990s, e-commerce has been walking a tightrope between speculation and reality. With the improvement of Internet usability, the acceptance of it grew exponentially (Taylor and Strutton, 2010). In China from 2007 to 2010, for example, the population of Internet users increased by more than double from 210 million to

457 million. China will soon replace the United States as the world's largest e-commerce market with a compound annual growth rate of 33% and a transaction volume of more than 2 trillion yuan (\$314 billion) (Lai and To, 2012). The combination of the huge market size and high economic growth have made China the most promising electronic marketplace for Internet products and services (Trappey and Trappey, 2001).

At the same time, e-commerce is growing at the expense of traditional retail businesses such as brick-and-mortar (BnM) bookstores. The number of physical bookstores in China decreased by 10,000 during 2007 to 2009. The decline in physical bookstores was caused by a couple of factors. First, the emergence of e-books has reshaped the publishing industry. For example, According to Jeff Bezos, the founder and CEO of Amazon.com, his company has been selling paper books for over 20 years and Kindle books for only a few years but now its customers are buying more e-books than paper books, which is an unexpectedly quick shift of consumer preference from paper books to e-books (Miller and Bosman, 2011). Second, the increasingly popular mobile reading software and e-reader devices have speeded up consumers' adoption of e-books. Third, consumers' reading habits have fundamentally changed.

Many brick-and-mortar bookstores failed to remain viable and a large number of them have closed down due to financial insolvency. The reasons for the decline of physical bookstores can be divided into internal factors (e.g., inherent drawbacks of physical bookstores) and external factors (e.g., technological and market changes).

This study aims to explore the reasons behind the declining financial viability of brick-and-mortar bookstores from both external and internal perspectives. Therefore, this study attempts to answer the question of whether there is a viable business model for physical bookstores in the business value chain in China. To answer this question, this study explores the trends in book production and sales in China and investigate book consumers' perceptions based on in-depth survey data about the potential values that can be created by physical bookstores. Based upon this study's findings, insights will be obtained regarding adjustments and adaptations, if any, that could be made by physical bookstores to turn themselves into a viable business.

The sample of this study comprises both primary and secondary data. The secondary data facilitate an investigation into the trends and patterns of both online and physical bookstores, book production, and book sales, while the primary data obtained from an in-depth online survey facilitate an analysis on the nature of the potential values created by physical bookstores in a Chinese social setting.

2. LITERATURE REVIEW

2.1. Physical bookstores

Physical bookstores have been experiencing very difficult time since the beginning of the Internet era. As Jeff Bezos said in 1994, "*online retailing is the next big thing*" and

selling books over the Internet would be “*the first big retail opportunity*” (Taylor and Strutton, 2010). Since then, the sales of paper books in many countries have been steadily declining (Greco, 2013). However, paper books remain to be very popular in China (Gao and Deng, 2012; Ziming Liu, 2005a). This observed difference between the East and the West in terms of consumers’ preference towards paper books is likely to be tied to China’s rapid economic development during this particular period (Chow, 2017). In particular, the retail sales of both paper books and e-books in China experienced an upward growth trend even when the markets for other off-line entertainment products were declining due to e-commerce and digitalization, which may indicate that the book retail business has some unique characteristics that deserve further study.

2.2. Digitalization

Digitalization was identified as a major trend in the fast-changing society and business practices (Trașcă *et al.*, 2019). There have been dramatical changes in people’s ways of living in various aspects such as shopping, transportation, obtaining news and information for work, and reading as a leisure activity.

Digitization has changed the way people enjoy reading and other cultural activities. The emergence and development of e-books have allowed classical literature as well as contemporary fiction and non-fiction books to be distributed electronically to ordinary families. The same phenomenon has happened in the distribution of music, news, television programs, movies, and other online entertainment. Simply speaking, reading as a way in which people enjoy their leisure time has been fundamentally transformed (Robinson and Halle, 2002).

Digitalization substantially reduces the marginal costs of producing and distributing written contents (Yin *et al.*, 2009). Moreover, written contents can be enriched to include animation and colorful graphic contents that can be more effectively displayed in digital form than in print form. As a result, different kinds of information are shared on the Internet and thus consumers are flooded with news, information, entertainment, and marketing information at a much faster pace and in a more concentrated and compelling form than in the past when content presentation was limited to print format (Borgman, 2010).

2.3. Trends in Sales of Books

The growth in the scale of China’s book retail market was volatile in 2001 to 2019 (*China’s Book Retail Industry Analysis Report 2019 - Current Situation of Industry Competition and Investment Strategies*, 2019). This was probably a result of the overall economic growth during that period which supported a larger middle class with increased leisure time and substantially higher disposable incomes. It was observed that the growth of per-capita expenditures on education, culture, and entertainment increased with the growth of per-capita disposable incomes (Farrell *et al.*, 2006).

The development of digitalization has not only boosted the sales of e-books but also resulted in the emergence of e-reading devices (e.g., Amazon's Kindle) that have been well received by book consumers. For instance, by the end of 2013, the sales of e-books on Amazon's Kindle accounted for a quarter of the total book sales by the company (Gilbert, 2015a).

According to *China's Book Retail Industry Analysis Report 2019 - Current Situation of Industry Competition and Investment Strategies* (2019), the retail book market grew steadily by 10.82% in the first half of 2019, indicating that the population of book consumers is increasing, which is a good sign for physical bookstores. Online book sales grew by 24.19% in the same period, indicating that people's interest in reading was growing at a slower rate than the shift of books sales from physical bookstores to online bookstores. Although the sales growth rate of physical bookstores was lower than that of online bookstores, the total sales from physical bookstores was fluctuating around 33 billion yuan and did not show any declining trend in 2012-2018.

2.4. Cost of Retail Space for Book Stores

Physical bookstores in China are facing multiple operational challenges. In addition to the trend of shifting towards digitalization, the costs of renting suitable retail space have been dramatically increasing over the last few years and there is no sign of a reversing trend (Du and Mickiewicz, 2016). This is an ominous trend for physical bookstores that require a physical location. For a physical bookstore, two main cost components other than the direct costs of goods are rental expenses and taxes, with rental expenses typically account for more than 60% of the total operating costs (Matthews *et al.*, 2008).

Bookstores in China can be divided into privately-owned bookstores, state-owned bookstores, and online bookstores. When faced with the rising rental expenses, the first two types of bookstores are under different levels of financial pressure. For example, Xinhua Bookstores are state-owned and most of them are using their own properties, otherwise they have the privilege to rent premises from the local government at a discounted price. It was not until 2013 that privately-owned booksellers could enjoy the same policy privilege (Zheng Liu, 2018a). Thus, most of the privately-owned physical bookstores are paying much higher rental expenses than are state-owned bookstores. Xi Shu bookstores, as an example of a privately-owned bookstore chain, opened its first bookstore in Beijing on June 26, 1996. Since then, this bookstore chain has opened 512 bookstores in more than 400 cities and 29 provinces, making it one of the largest chains of bookstores in China. Even the buying and bargaining power increases with firm size, large brick-and-mortar bookstores are under tremendous pressure caused by the rising rental expenses (Qing and Lifang, 2005).

Because of the inability to profitably operate in urban areas, many physical bookstores have relocated their storefronts to remote regions or upper floors of commercial buildings. The higher rents also mean that it is difficult for physical bookstores to lower the prices for paper books, which undermines physical bookstores'

competitiveness relative to online bookstores. In general, most booksellers are operating with extremely narrow margins (Latcovich and Smith, 2001). Under this situation, online bookstores enjoy tremendous competitive advantages. The biggest competitive advantage enjoyed by online bookstores is their ability to charge lower prices for both paper books and e-books (Ziming Liu, 2005a). Online book sellers have an additional advantage when it comes to the availability of contents. Without being limited by normal business hours, online bookstores' customers can search and buy what they want at any time of the day or night and even on holidays (Zhenguo *et al.*, 2003). All these factors make it very difficult for physical bookstores to compete with their online counterparts.

2.5. The Relationship between Price and Value

According to data from the National Bureau of Statistics of China (NBSC) (2017a), China's GDP grew from 591.44 billion yuan to 827.17 billion yuan, a 39.7 percent increase, between 2013 and 2017. With the rapid development of the national economy and the improvement of the people's living standard, the demand for leisure and entertainment has remarkably increased (Barro, 2016; Chow, 2017). From the same NBSC report, the disposable incomes of Chinese consumers increased from 18,310.8 yuan in 2013 to 25,973.8 yuan in 2017 (i.e., a 41.8% increase). During the same period, the per-capita consumption expenditures increased from 13,220.4 yuan to 18,322.1 yuan, a 38.6% increase, of which the per-capita consumption expenditures on education, culture, and entertainment increased from 1,397.7 yuan to 2,086.3 yuan, an 49.2% increase. All these figures suggest that Chinese people are spending an increasing amount on education, culture, and entertainment, including reading and purchase of books, and that their expenditures on these products and services are increasing with their incomes.

With the popular concept of "reading for all" in China and a national program to encourage reading, physical bookstores have become an appealing new development opportunity especially for the existing physical bookstore chains offering both high-quality books and cultural experiences as their competitive elements. Existing physical bookstores are trying to seize this opportunity to develop and innovate (Wang and Chen, 2018).

The rising urban rent is the largest barrier to the development of physical bookstores in many Chinese cities. According to the National Commercial Rent Report (2019), in terms of vacancy rate and unit price of retail space in the first-, second- and third- tiers Chinese cities in 2015, Shanghai was the most expensive city in China with an average monthly rent of about RMB 1,180 per square meter, which was followed by Guangzhou with an average monthly rent of RMB 1,065 per square meter. A typical mid-sized bookstore with a floor area of about 200 square meters would have to incur rental expenses of around RMB 2.5 million each year. In Beijing, according to the Beijing Youth Daily newspaper (2019), the Haidian district is the most concentrated area of bookstores in Beijing, where there are more than 1,000 physical bookstores in

2019. However, most of these bookstores' sales are declining over time. For example, ZhilaoHu Bookstore's sales was only RMB 10 million in 2014, which was not even enough to cover the rental expenses. Another example is the case of Shanghai Sanlian Taofeng Bookstore. According to this bookstore's General Manager, Zhai Defang, the bookstore sold 364,400 books in 2012 achieving RMB 11 million sales, but the profit made from each book sold was less than RMB 1, meaning that the profits made for the entire fiscal year was only RMB 360,000 (J. Zhang and Xie, 2012).

According to China's Retail Industry Analysis Report (2019), online bookstores' sales amounted to RMB 13 billion in 2012, accounted for only about 30% of total book sales. The market share of online bookstores increased to 48.9% in 2015 and further to 64% in 2018. That is to say, the overall increase in book sales (including both e-books and paper books) was insufficient to cover the increasing rental expenses incurred by physical bookstores and most of them were unable to make profits. Despite the increasing book sales, the rising costs of retail space outpaced the revenue growth. As the less expensive e-books become more popular among book consumers, physical bookstores are caught in a vicious cycle of rising rental expenses and falling profit margins.

2.6. Prices of Paper Books

The higher prices of paper books being sold at physical bookstores are another possible reason for the decline of physical bookstores. In 2002, a paper book for sale at online bookstores on average costed 20% lower than the same book for sale at traditional bookstores (Chevalier and Goolsbee, 2003; Chu *et al.*, 2012). While prices set by online bookstores are much lower than those set by physical bookstores, some book consumers still enjoy the experience of visiting and spending their leisure time at physical bookstores. However, the value of such experience may not be sufficient to induce actual purchase. The price difference for the same book between a physical bookstore and an online bookstore is on average 20 to 30 RMB. Considering the level of disposable incomes of Chinese consumers as presented above, book prices are likely to be a crucial factor leading to the larger market share of online bookstores (Chu *et al.*, 2012).

Digitalization has dramatically changed the value-to-price ratio of books. In most countries, including China, book consumers' reading habits are evolving. On large and active online shopping platforms in China, discounts and cost-plus vouchers are typically handed out for consumers to purchase newly released book titles at around 50% discount (Yaobin *et al.*, 2007). Additionally, e-books (such as those compatible with the popular Kindle e-reader) are usually sold at much lower prices than physical books of the same titles. In fact, many e-books cost less the 10 RMB (approx. \$1.5 USD) each copy from online book sellers (Chevalier and Goolsbee, 2003). Consumers are given a large variety of choices at online bookstores, where the lower prices for e-books encourage impulse purchase (Graziani, 2018).

2.7. Development of Internet-accessible Literature and Mobile Reading

According to Ji Wei, a columnist of BBC China, access to Chinese literature on the Internet is a miracle "*because of the large number of readers and authors as well as the huge amount of online contents*" (Ji, 2010). After many years of development, the number of readers of Chinese Internet-accessible literature surpassed 400 million in 2018. Yuewen Group, the most developed Internet-accessible literature group in China, has built an average monthly user base of 200+ million (Bissenbayeva *et al.*, 2019).

The success of Internet-accessible literature stems from three factors: First, Internet-accessible literature can better meet a wider range of readers' needs through immense selection and variety. Second, Internet-accessible literature not only provides a single reading experience but also makes a cross-over into other entertainment and social interactions, e.g., readers are allowed to vote for and make online comments on the authors they like. Traditional offline reading of literature cannot provide such an interactive environment for readers to communicate with each other. In fact, comments and votes have become an integral part of the reading experience for millions of Chinese readers. The number of votes and reader comments have also become an important way to rate, rank and evaluate the quality of a book title. Based partly on the popularity of the Internet-accessible literature, several book titles were adopted for movies and TV serial dramas, which in turn attracted new fans to read the original book titles on the Internet. For those who do not read books, they can listen to the audio versions online. The social interactions among readers through posting and browsing book comments on the Internet are hugely popular and have become a major factor leading to the success of Internet-accessible literature.

Third, reading applications installed on mobile phones are supported by the largest and most influential technology companies to create a large degree of end-user "stickiness". For example, WeChat Reading is a product introduced and operated by Tencent, one of the largest high-tech company in China, to integrate reading and socializing. While providing the functionality for reading e-books and browsing online contents, reading applications also offer an option for the readers to engage in end-user interactions. The social psychology that people want to record and share their reading experiences with others is compelling, that is the reason why WeChat Reading has been so successful since its launch in 2018. In fact, this reading application has reached an active user base of 5.5 million, of which 2.15 million are active users with an average daily usage time of over 70 minutes. That is to say, these kinds of mobile reading applications are likely to change book consumers' reading habits by offering multiple features (Zhang and Wu, 2019).

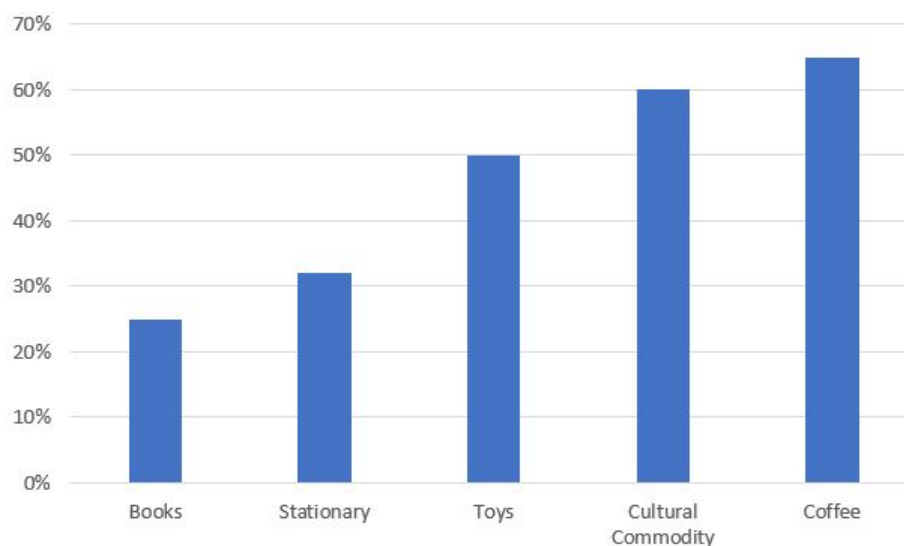
2.8. Changes - New Styles of Bookstores

To survive in the era of digitization, many physical bookstores attempted to transform themselves into social and cultural centers. As such, a "new" and "transformed" physical bookstore is no longer a place merely for selling books, but rather a place where shopping, reading, and browsing take place as an integrated part of a wider social and cultural

experience given by in-store restaurants, creative workshops, art exhibitions, etc. In other words, value-added facilities and services are provided by transformed physical bookstores to facilitate sharing of ideas through social meetings (Zhao, 2019a).

The presence and appearance of the new business model of physical bookstores is closely linked to the urban culture and is fully integrated into people's social lives. These "new" and "transformed" physical bookstores are usually characterized by unique appearance and design which are closely integrated with the local culture (Zhu and Wang, 2019). In particular, the interior design is closely related to bookstore customers' perceptions and expectations for a pleasant and welcoming reading experience as this kind of interior design creates a good reading environment and resonates psychologically and emotionally with bookstore customers. As indicated in Figure 1, book sales are a relatively minor part of a new-style bookstore's overall revenues. The advent of the extra value-adding services has elevated a bookstore to a place that integrates reading, entertainment, and even spiritual and social lives. Many of these physical bookstores have well-diversified income sources as over 70% of their revenues comes from sales of goods and services other than books. We can call these transformed physical bookstores a kind of "hybrid operation". The profit margin from the sales of coffee and other merchandise can be as high as 60-65%, which is more than double the profit margin of book selling (Zhao, 2019b)

Figure 1: New-Style Bookstores' Sources of Profits



(Profit Sources of Bookstores. Retrieved from <https://max.book118.com/>.)

For instance, Nanjing Pioneer Bookstores have developed over 5,000 non-book items in their "Pioneer" series of cultural commodities, including hand-painted maps, postcards, Nanjing-style creative handicraft, etc. In 2017, the profits made from cultural commodities exceeded 40% of the bookstore's total profits. Their bookstores also organized cultural and social events to emphasize "interaction and participation", which

made customers to stay longer inside the bookstore, enhanced customer stickiness, and promoted the bookstore as a destination for leisure activities. In 2017, over 2,000 cultural events were organized by Nanjing Pioneer Bookstores across China which attracted over one million attendees (Kao and Sung, 2016).

All in all, paper book sales may no longer provide a viable means to generate sustainable profits because book consumers are likely to choose the digital version of a book or even turn to a pirated one (Tang, 2002). The data as shown in Figure 1 seem to indicate that diversification is a possible way to find a viable and less vulnerable business model for physical bookstores.

Adler *et al.* (1998) studied the work-related reading habits of 15 office workers coming from different industries for five consecutive days. They found that the average percentage of their time spent on reading documents was 82%, with 51% of which on reading paper documents, 14% on reading digital documents, and 35% on reading a combination of paper and digital documents. These findings may suggest that paper and digital documents can coexist in the future (Sellen and Harper, 2003). Interestingly, another study by Woodward *et al.* (1997) revealed that most people (80%) like to print out electronic documents because they dislike reading those documents from a computer screen. This indicates that people prefer reading paper documents if they have a choice. Similarly, Murphy *et al.*'s findings (2003) also suggest that, for most readers, online text is more difficult to understand, less interesting, and less reliable compared with printed text.

2.9. Books Distribution in China

To some extent, physical bookstores are needed to bring books to readers because many book readers still want to purchase paper books from physical bookstores. The dramatic increase in the number of books published each year forces physical bookstores to increase their book inventories. According to the National Bureau of Statistics (*National Bureau of Statistics of China*, 2017b), the number of books printed each year is increasing every year; for instance, there were over 9 billion copies of books printed in each of 2016 and 2017, a 4.39% increase from 2015.

At present, book distribution in China's domestic market is undertaken through several channels: general distribution; wholesale; retail; and chain operations. The main outlets are Xinhua Bookstore (state-owned), privately-owned bookstores, foreign-owned bookstores, online bookstores, and publishing houses. Among these outlets, Xinhua Bookstore by far has the largest market share of book distribution in China. Note that Xinhua Bookstore has 8,996 distribution outlets in 2016, a 0.87% increase from 2015 (Wei, 2013a).

In conclusion, physical bookstores are under heavy market pressure to keep a larger variety of book titles in their inventories in order to remain competitive relative to online bookstores. The costs of maintaining a large inventory, accompanied with the increasing rental rate for a physical storefront, make the traditional brick-and-mortar bookstore business model less likely to be viable.

3. STATEMENT OF HYPOTHESIS

Like many other brick-and-mortar businesses, physical bookstores are under intense pressure to remain competitive and financially viable. Physical bookstores, however, differ from physical retail outlets of other businesses for several reasons as discussed in previous sections. Based on the existing body of research on bookstores, e-books, and related topics, it seems to be possible that bookstores may create values to book consumers beyond simply acting as a book selling agent. Physical bookstores may be a sustainable business under certain circumstances and thus the hypotheses of this study are stated as follows:

H1A: Traditional brick-and-mortar bookstore business is sustainable in China.

H1B: Traditional brick-and-mortar bookstore business is not sustainable in China.

H2A: With adaptation, traditional brick-and-mortar bookstore business is viable in China.

H2B: With adaptation, traditional brick-and-mortar bookstore business is not viable in China.

The conceptual framework classifies the factors affecting the sustainability and viability of a physical bookstore into External Factors, Internal Factors, and Consumer Demographic Factors. To test for the above hypotheses, this study seeks to address the following research questions (RQs):

RQ 1: What are the demographic characteristics of book consumers who frequently visit physical bookstores?

RQ 2: What are the motivations for book consumers to visit bookstores?

RQ 3: What are the digitalization-related social and technological factors affecting physical bookstores?

RQ 4: What are the factors leading to physical bookstores' insolvency?

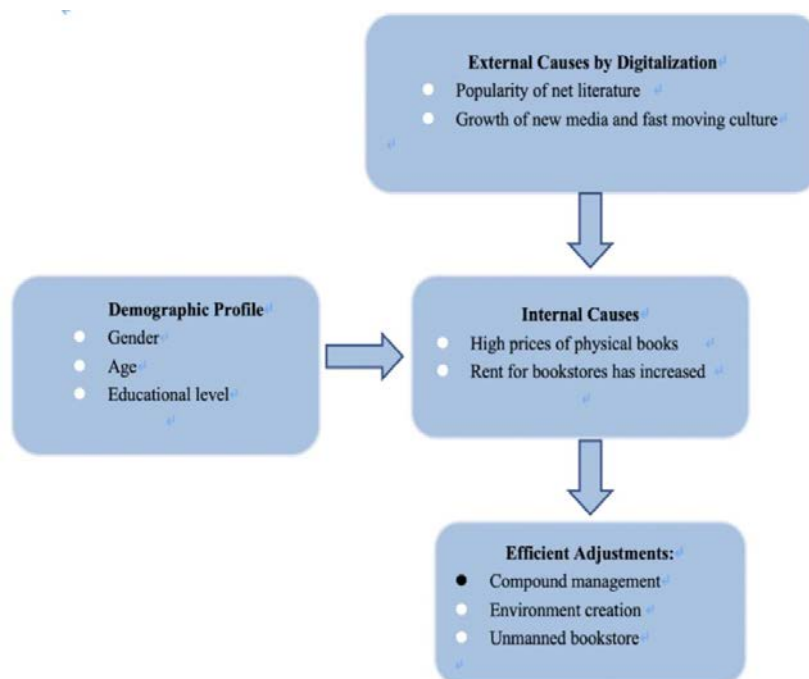
RQ 5: What are the possible transformations/adaptations that bookstores can undergo to make their business viable?

4. METHODOLOGY

To test for the hypotheses by answering the research questions RQ1 – RQ5, this study applied a mixed-methods approach: (i) a qualitative method was used for descriptive analysis, and (ii) inferential data analyses based on data collected from a survey instrument. Specifically, an online survey was conducted to collect data for assessing the respondents' reading patterns and their perceptions about physical bookstores' roles and impacts on the business value chain. Respondents were selected by random sampling that

allows sampling error to be calculated. A total of 442 respondents returned the questionnaire within a 14-day survey period. The respondents came from different age groups and education levels. A quantitative methodology was then used to translate concepts and descriptive statements into indicators and variables. The data were analyzed using various statistical methods including variance analysis, chi-square analysis, correlation analysis, and frequency analysis.

Figure 2: Conceptual Framework



4.1. Instrumentation Design - Pilot Study

A pilot study was conducted in the form of unstructured interviews with 15 respondents by asking them open-ended questions. The purpose of the pilot study is to obtain basic understandings and implications that form the basis for developing a full survey questionnaire. This step is necessary because suitable measurement scales are not available from past research.

4.2. Research Instrumentation and Data Collection Process

Data collected from the online survey were categorized into four parts: the respondents’ demographic profile, the respondents’ perceptions regarding how physical bookstores are affected by digital technologies, the respondents’ perceptions regarding the internal and

external causes of physical bookstores' decline, and the respondents' acceptance of changes in the core functions performed by physical bookstores.

The online survey was hosted on the Wen Juan Xing questionnaire platform (<https://www.wjx.cn/>), which can be understood as the Chinese version of Google Forms. The questionnaire was aimed at respondents at all ages and its web link was shared on social media sites such as QQ and WeChat.

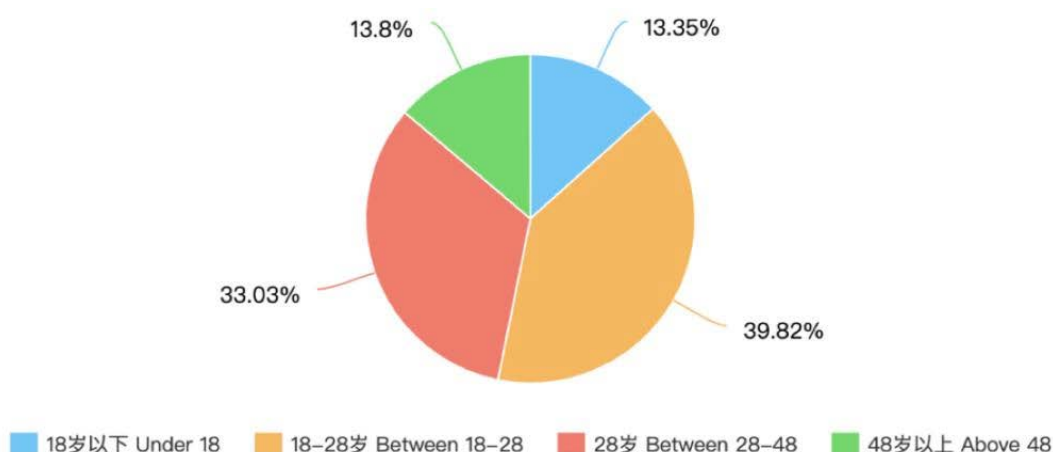
4.3. Treatment of Data

This study used quantitative analysis to identify meaningful patterns from the data collected. Pie charts, bar charts and descriptive analyses were used to illustrate the demographic profile of the respondents while variance analysis (also known as single factor analysis of variance) was used to study the respondents' education background. Chi-square analysis (cross-table analysis, contingency table analysis, and Pearson chi-square analysis) was used to analyze the external and internal factors affecting the survival of physical bookstores.

5. ANALYSIS / RESULTS

Among the 442 respondents, 59 of them were "under 18", 176 from "between 18-28", 146 from "between 28-48", and 61 from "above 48". The detailed distribution as shown in Figure 3 suggests that majority of the respondents came from the age group of 18-28. This is predictable and is likely to be caused by sampling bias because people in this age group are most active in the online social media where the survey was conducted.

Figure 3: Respondents by Age Group



Reading is one of the most important ways to acquire knowledge. People of different educational levels are likely to have different reading habits and preferences.

Therefore, we began with studying the relationship between reading behavior and education level by variance analysis that analyzes the relationship between education level and daily reading intensity.

The questionnaire classifies respondents of different education levels into four groups: high school and below; specialist degree; undergraduate degree; master’s degree and above. Almost 70% of the respondents have an undergraduate degree or a specialist degree. Table 1 reports the findings from a variance analysis (one-way ANOVA) based on the respondents’ reading intensities across the four education levels. The findings suggest significant differences between the four education levels in terms of the respondents’ reading intensities (p-value < 0.05 indicates statistical significance at the 5% level). This confirms that people with different educational backgrounds have different reading habits.

Table 1: Variance Analysis of the Respondents' Education Level

	High School and Below	Specialist degree	Undergraduate degree	Master’s degree	F	P
Reading intensity	3.05±1.09	3.43±0.76	3.35±0.90	3.39±0.72	3.419	0.017*

Note: * - significance at the 5 % level.

Figure 4 provides a graphical comparison across the four education levels in terms of their reading intensities, which shows that the four groups of different education levels have the following ranking in terms of reading intensity: Specialist degree > Master’s degree and above > Bachelor’s degree > High school and below. Not surprisingly, reading intensity tends to increase with education level.

Figure 4: Education Level and Reading Intensity



To measure the respondents' attitudes toward reading, the survey questionnaire asked two questions:

(1) "How much time each week do you spend on reading?" Responses to this question suggest that 28.5% of the respondents spent less than 30 minutes each week on reading, and 36% of them read for 30 to 60 minutes each week. The combined percentage of the responses from these two groups indicates that majority of the respondents did not consider reading as a priority in spending their time. This finding is consistent with a report from National Bureau of Statistics (National Time Use Survey Bulletin 2018) saying that Chinese people on average have only 3 hours and 56 minutes of free time each week, which means that it is practically difficult for each of them to spend more than 3 hours each week on reading.

(2) "Do you insist on reading every day?". The results concerning this question show the following responses: 19.91% of the respondents answered "Yes"; 27.28% of them answered "No"; 33.94% of them answered "I want to insist but cannot make it"; and 18.78% of them answered "I want to insist but my time and energy do not allow me to do so". As aforementioned, an average person in China has less than 4 hours for leisure each week, so it is not surprising that the number of negative responses was much larger than the positive ones. Moreover, it is necessary to understand the difference between "I want to insist but cannot make it" and "I want to insist but my time and energy do not allow me to do so". The respondents choosing the former are those who may have time to read but do not have the willpower/motivation to do so, while the respondents choosing the latter are those who are motivated to read but the objective conditions/constraints prevent them from reading on a daily basis. These findings appear to be inconsistent with those from past studies (e.g., (Leung, 2015; Yongfang, 2003) suggesting that objective conditions/constraints are more powerful than the lack of willpower/motivation in limiting the time allocated to reading.

By investigating how much time the respondents allocate to reading and their choice of e-books vis-à-vis paper books, this study seeks to better understand the reading-related behaviors of the respondents. Two questions were designated in the questionnaire to ask the respondents' choices between e-books and paper books:

(1) Preference for e-books vis-à-vis physical (paper) books before considering the price difference between them. As shown in Figure 5, 47.29% of the respondents preferred paper books while the rest preferred e-books. In other words, without considering the price difference between e-books and paper books, the distribution of consumer preferences between the two types of books is almost 50-50.

(2) Preference for e-books vis-à-vis physical (paper) books after considering the price difference between them. As shown in Figure 6, only 38.01% of the respondents preferred paper books while the rest preferred e-books.

The booming of social media and short videos were driven by digitalization. A short video typically takes less than 5 minutes to create and disseminate on the Internet especially with the popularity of smart phones and the acceleration in network speed (Lu

and Lu, 2019). As a result, activities and contents on short video platforms are experiencing a period of extremely high growth (Marjerison and Gan, 2020).

Figure 5: Preference for E-books vis-à-vis Physical (Paper) Books before Considering the Price Difference

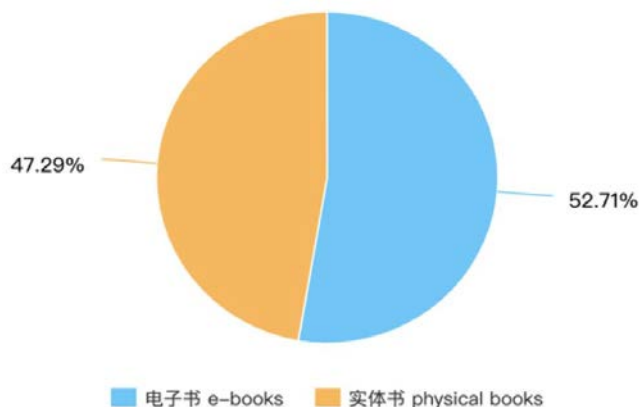
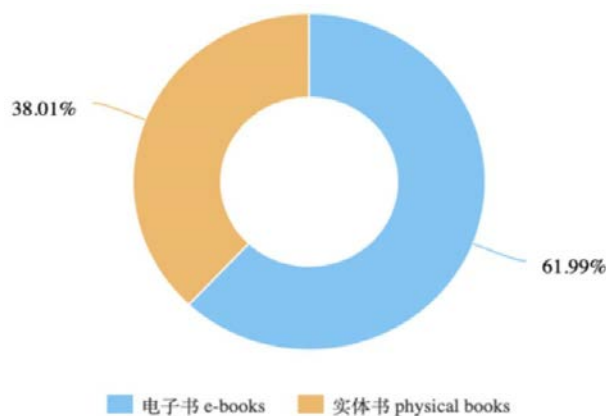


Figure 6: Preference for E-books vis-à-vis Physical (Paper) Books after Considering the Price Difference



To explore how the respondents receive information from different information channels, they were asked in the questionnaire about how often they received information from three alternative channels, namely, reading books, browsing social media, and watching short videos online. The findings suggest that 5.66% of the respondents never received information from books, 3.39% of them never received information from social media, and 4.3% of them never received information from online short videos. Moreover, 54.75% of the respondents received information from books every day, 59.05% of them

received information from social media every day, and 61.09% of them received information from online short videos every day. These findings indicate that social media and online videos were just slightly more popular channels for receiving day-to-day information, implying certain market potentials still exist for physical bookstores.

In addition to the impacts of external factors on physical bookstores, there are several important internal factors coming into consumers' decision-making process. Obviously, for instance, the most significant internal factor in determining whether a person would choose to visit a physical bookstore is whether the person likes to read physical books. The difference between e-books and paper books is apparent. However, in addition to being more convenient to access (online), the biggest advantage of e-books is that they tend to be less expensive than paper books (Gilbert, 2015b).

Therefore, there are two questions in the survey questionnaire about how the higher prices for physical books and the presence of promotional activities (e.g., discounted prices) affect the respondents' choice between e-books and paper books.

Pearson Chi-square analysis (i.e., contingency table analysis) was used to analyze the differences between people who have different preferences for e-books and paper books and whether prices and promotion efforts influence their choices. The results of the Chi-square analysis are reported in Table 2.

Table 2: Reading Habits and Book Prices/Discounts

Question	Answer	E-books are preferred	Paper books are preferred	p-value
Is the price reasonable?	Irrelevant	6.93	6.8	0.126
	Unimportant	12.12	9.71	
	Neutral	27.71	23.33	
	Important	35.06	35.52	
	Very important	18.18	28.64	
Is there any promotion / discount?	Irrelevant	11.26	7.28	0.007**
	Unimportant	8.66	9.71	
	Neutral	23.81	13.59	
	Important	43.29	46.6	

Very important	12.99	22.82
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Note: ** - significance at the 1 % level.

According to the results of the Chi-square analysis, whether the price is reasonable does not significantly affect the respondents' choice between e-books and paper books ($p > 0.05$). However, the presence of promotion / discount significantly affects the choice between e-books and paper books at the 1% level of significance. For instance, for those respondents answering "neutral" in response to the importance of promotion/discount, they are significantly more likely to choose e-books (23.81%) rather than paper books (13.59%). These findings support Hypothesis H2a that there is a viable business model for physical bookstores if they are able to create extra values beyond merely acting as a book selling agent.

The geographical locations of physical bookstores is known to be an important factor affecting the frequency of customer visits (e.g., Zheng Liu, 2018b; Wei, 2013b). Rents per unit of floor space in prime locations are too high for traditional physical bookstores because these bookstores need a lot of space for large inventories and they rely very much on book sales as the main source of revenues. The next question in the questionnaire examines whether traditional bookstores need to be located in prime districts by investigating the respondents' perceptions regarding the appropriate locations for physical bookstores.

Table 3: Frequency of Customer Visits and Bookstore Location

Question	Answer	How often do you visit a physical bookstore?			p-value
		At least once every 2 weeks	At least once every month	At least once in more than one month	
	Irrelevant	4.88	4.27	4	
Is the bookstore located in a prime district?	Unimportant	2.44	6.1	2	0.135
	Neutral	29.27	27.44	21.33	
	Important	42.28	33.54	48.67	
	Very important	21.15	28.66	24	

Chi-square analysis was conducted to study the relationship between the respondents' perception regarding the appropriate locations of physical bookstores and the frequency of them actually visiting physical bookstores. Table 3 reports the findings, which suggest that there is no significant difference in the frequency of customer visits no matter whether the bookstore is located in a prime district or not ($p > 0.05$). This implies that physical bookstores do not necessarily need to pay high rents for a prime location because doing so does not significantly increase the frequency of customer visits. This also implies that physical bookstores can choose to operate in lower-rent districts which make it easier for their business model to be viable. Therefore, the findings support hypothesis H2a that, by adaptation (i.e., choosing a lower-rent location), physical bookstores are potentially a viable business in China.

The main service provided by physical bookstores is to display and sell paper books and provide a place for customers to physically browse and read the books. Therefore, to study the current situation and future development of physical bookstores, it is important to investigate the frequency of customer visits and what actually the customers want to do in a physical bookstore, for example, whether reading is the customers' major purpose of visiting a physical bookstore or there are some other reasons for their visits. On this issue, there are two questions in the questionnaire: one question is about the frequency of customer visits to physical bookstores, while the other question is about the customer activities in a physical bookstore, which include: "finding an appropriate book"; "attending a writer's book signing session"; "drinks and desserts"; and "buying books with delivery services".

A hierarchical regression analysis was conducted to study changes in the model's predictive power brought about by changing the independent variables. For the purpose of this study, we studied the relationship between different services provided by physical bookstores and the frequency of customer visits. The findings are presented in Figure 4, where B represents the estimated regression coefficient. This stratified regression analysis involves a total of 4 models. The independent variable in Model 1 captures the respondents' responses to the question "Is there a complete variety of books?". Model 2 adds "Is there a writer's book signing session?" as an additional independent variable on the basis of Model 1. Model 3 is Model 2 plus an additional independent variable capturing the respondents' responses to the question "Are there drinks and desserts for sale?". Model 4 is a complete model with all the independent variables from Models 1-3 plus an additional one: "Are there book delivery services". The dependent variable for Models 1 – 4 is the frequency of customer visits (i.e., denoted by "Frequency" hereinafter).

In Model 1, the R-square value of 0.638 indicates that the independent variable "Is there a complete variety of books?" alone explains 63.8% of the Frequency variations. This model passes the F-test ($F = 767.981$, $p < 0.05$), meaning that the model specification is significant. The estimated coefficient $B = 0.821$, which is statistically significant at the 1% level ($t = 27.712$, $p = 0.000 < 0.01$), suggesting that the respondents' responses to the question "Is there a complete variety of books?" have a significantly positive impact on Frequency.

Similarly, in Model 2, the increase in R-square is statistically significant ($p < 0.05$) after including “Is there a writer’s book signing session?” as an additional independent variable, meaning that the additional independent variable significantly increases the explanatory power of the model. The estimated independent variable coefficient on “Is there a writer’s book signing session?” is statistically significant at 0.299 ($t = 2.850$, $p = 0.005 < 0.01$), suggesting that the respondents’ responses to this question have a significantly positive impact on Frequency.

In model 3, the increase in the R-square value is insignificant, meaning that the additional independent variable “Are there drinks and desserts for sale?” does not contribute to the model’s explanatory power.

In Model 4, the R-square significantly increases from 0.646 to 0.650. Moreover, the estimated coefficient on the independent variable “Are there book delivery services” is 0.284 that is statistically significant ($t = 2.119$, $p = 0.035 < 0.05$). This finding means that the respondents’ responses to the question about book delivery have a significantly positive impact on Frequency.

Therefore, the above findings identify the important factors considered by book customers in making their decisions on whether to visit a physical bookstore or not. The findings clearly indicate that customer visits to physical bookstores are motivated by social and entertainment activities that are largely beyond book purchase.

The next question in the questionnaire is designated to study the relationship between whether a customer chooses to read a book in a physical bookstore (instead of buying the book back home) and the environment/atmosphere of the physical bookstore. Frequency analysis is used again to study this relationship. Findings from a hierarchical regression analysis as reported in Table 5 identify three possible reasons that might influence a customer’s decision to read a book at a physical bookstore (instead of buying the book back home), namely, quiet environment, comfortable seating area, and the availability of drinks and desserts for sale.

In Model 1 of Table 5, the respondents’ responses to the question “Is it quiet inside the bookstore?” is taken as the independent variable, while “If you go to a physical bookstore, will you read a book inside the bookstore instead of buying the book back home?” (i.e., denoted by “Choice” hereafter) is taken as the dependent variable for a linear regression analysis. The R-square value of 0.593 indicates that the independent variable “Is it quiet inside the bookstore?” alone explains 59.3% of the Choice variations. This model passes the F-test ($F = 633.843$, $p < 0.05$), meaning that the model specification is significant. The estimated coefficient $B = 0.787$, which is statistically significant at the 1% level ($t = 25.176$, $p = 0.000 < 0.01$), suggesting that the respondents’ responses to the question “Is it quiet inside the bookstore?” have a significantly positive impact on Choice.

Table 4: Bookstore Services and Customer Visits (Dependent variable = frequency of visits)

Independent variables	Model 1				Model 2				Model 3				Model 4			
	B	Std. error	t	p	B	Std. error	t	p	B	Std. error	t	p	B	Std. error	t	p
Constant	0.026	0.077	0.334	0.739	-0.048	0.081	-0.594	0.553	-0.077	0.084	-0.914	0.361	-0.085	0.084	-1.014	0.311
Is there a complete variety of books?	0.821**	0.03	27.71	0	0.546**	0.101	5.404	0	0.543**	0.101	5.376	0	0.463**	0.107	4.316	0
Is there a writer's book signing session?					0.299**	0.105	2.85	0.005	0.089	0.204	0.435	0.664	-0.121	0.226	-0.537	0.592
Are there drinks and desserts for sale?									0.223	0.186	1.197	0.232	0.23	0.185	1.24	0.216
Are there book delivery services?													0.284*	0.134	2.119	0.035
R ² (ΔR^2)	0.638				0.645 (0.007)				0.646 (0.001)				0.65 (0.004)			
F	767.981				394.343				263.635				200.443			

Notes: ** - significance at the 1 % level. * - - significance at the 5 % level.

Table 5: Bookstore Environment and Customer Visits

Independent variables	Model 1				Model 2				Model 3			
	B	Std. error	t	p	B	Std. error	t	p	B	Std. error	t	p
Constant	0.005	0.083	0.065	0.948	-0.004	0.089	-0.048	0.962	-0.203*	0.09	-2.246	0.025
Is it quiet inside the bookstore?	0.787**	0.031	25.176	0	0.746**	0.137	5.455	0	0.578**	0.133	4.333	0
Is there a comfortable sofa inside the bookstore?					0.045	0.143	0.311	0.756	-0.349*	0.151	-2.315	0.021
Is the indoor temperature comfortable inside the bookstore?									0.636**	0.100	6.368	0
R^2 (ΔR^2)	0.593				0.593 (0)				0.628 (0.035)			
F	633.843				316.311				243.608			

Notes: ** - significance at the 1 % level. * - significance at the 5 % level.

Similarly, in Model 2, the R-square remains unchanged after including the respondents' responses to the question "Is there a comfortable sofa inside the bookstore?" as an independent variable, meaning that this variable does not contribute to the model's explanatory power. Finally, in Model 3, the R-square significantly increases from 0.593 to 0.628, suggesting that the respondents' responses to the question "Is the indoor temperature comfortable inside the bookstore?" have a significantly positive impact on Choice.

In summary, the findings from Table 5 suggests that the physical environment of a physical bookstore is important to attracting customers to stay longer inside the bookstore. Among the environmental factors, while comfortable seating is unimportant, temperature and quietness are important to keeping the customers to stay inside the bookstore. From these findings, we can conclude that customers see bookstores as potentially a suitable place for reading and leisure rather than just a place for book purchase. These findings support hypothesis H2b that, if physical bookstores are able to adapt by creating extra values beyond selling paper books, they can be a viable business model in China.

On the "World Reading Day" April 23, 2018, China's first "unmanned bookstore" (Chi Da bookstore) built by Alibaba Group came into operation. The entire operation of this unmanned bookstore runs on mobile phone technologies by which customers scan a QR code to enter the bookstore, pick up selected books and other merchandises, and then checkout the bookstore through a "settlement door" where the customers are automatically charged by facial recognition and Alipay (i.e., an online payment application). The entire shopping and payment processes are cashless and do not require any human contact.

Table 6: Summary of Hypothesis Testing

Hypothesis	Result
H1A: Traditional brick-and-mortar bookstore business is sustainable in China.	Not supported
H1B: Traditional brick-and-mortar bookstore business is not sustainable in China.	Supported
H2A: With adaptation, traditional brick-and-mortar bookstore business is viable in China.	Supported
H2B: With adaptation, traditional brick-and-mortar bookstore business is not viable in China.	Not supported

While it is still too early to judge the viability and long-term implications of unmanned bookstores, this study's survey found that 41.63% of the respondents had the

experience of visiting an unmanned bookstore and that 29.19% of them actually purchased something from an unmanned bookstore. This is a relatively large proportion given that the number of unmanned bookstores is still very small in China. This result indicates that unmanned bookstores are potentially acceptable to customers. While these findings are consistent with hypothesis H2a that non-traditional physical bookstores can be a viable business model, further investigation on unmanned bookstores is beyond the scope of this study. Putting this study's findings together, Table 6 summarizes the results of hypothesis testing.

6. CONCLUSIONS AND PRACTICAL IMPLICATIONS

This study aims to explore how the rapid development of digitalization has influenced physical bookstores in China, and to evaluate the effectiveness of the current strategic adjustments made by physical bookstores in response to the changing business environment. Based on analyses on book consumers' reading habits and perceptions, this study investigates whether physical bookstores can find a possible pathway leading to business viability through adaptation and innovation.

This study argues that the viability of physical bookstore business in China over the last decade has not been encouraging because online bookstores are rapidly growing at the expense of physical bookstores' market share. In this study, major problems faced by physical bookstores can be divided into two aspects. First, an internal (inherent) problem is that traditional bookstores rely only on book sales as the major, if not the only, source of incomes. Therefore, it is difficult for them to afford the high rents for retail space in desirable districts. Moreover, the relatively high prices for paper books (which in turn are related to the high rental expenses and operation costs) undermine physical bookstores' competitiveness relative to online bookstores because the latter offer a larger degree of convenience and relatively inexpensive e-books. These differences in prices and service quality reduce the popularity of paper books among consumers.

Second, there are also external reasons for the decline of traditional bookstores. For instance, the market share of e-books is further enhanced at the expense of paper books with the development of Internet-accessible literature. This growth trend for e-books and online bookstores is likely to continue in the foreseeable future, and book customers are expected to be increasingly keen on online reading. At the same time, this study's survey findings show that watching short videos online and browsing social media have already become a rapidly developing culture governing how people spend their daily leisure time. This irreversible trend imposes an adverse impact on the traditional bookstores business.

As a result of digitalization, there is an explosion of information available on the Internet, and the society has already adapted to this change regarding the ease of access to online information and entertainment content. However, this study's survey findings suggest that the market for physical bookstores is not yet saturated and it still has certain

growth potentials as long as the physical bookstores can adapt to the changing technologies and book consumers' changing reading habits.

For instance, many traditional bookstores have transformed themselves into places not only for selling paper books but also for book consumers to experience various kinds of cultural, leisure and entertainment activities, such as art exhibitions, café, writers' book signing sessions, etc. This transformation allows traditional bookstores to diversify their income sources. However, more information and data about book consumers' reading habits and preferences should be collected before traditional bookstores could make correct business decisions concerning in what ways their services should be enhanced. All in all, is there a future for traditional bookstores? This study's findings suggest that the answer to this question is "yes" provided that traditional bookstores can successfully go through appropriate adaptation and transformation.

7. SIGNIFICANCE OF THE STUDY

With the rapid and ongoing development of digitalization, consumers' daily life has been increasingly occupied by digital media. Consequently, there is an increasing volume of media contents that are specifically designed to be read digitally online. Using new technologies, there are also digital contents and media designed in such a way that they can closely replicate the traditional reading experience given by physical books. Because of the convenience and portability of electronic products and the lower prices for e-books, the remaining market share for physical bookstores to sell paper books is increasingly in peril. There are, however, still several reasons for the existence of physical bookstores in the market. For instance, the copyright protection of digital media is sketchy at best with widespread infringement of intellectual property rights on the Internet. As such, publishing paper books is still one of the most important sources of income for most writers because there is a relatively robust legal framework for protecting the copyrights of paper books.

In addition, physical bookstores can be a place for writers and readers to interact, collaborate, socialize, and exchange ideas. Physical bookstores can also be a part of the urban cultural lifestyle. At the reader level, there are still some people who like the reading experience at physical bookstores. To avoid being eliminated in the era of digitization, physical bookstores urgently need to transform themselves and turn the present crisis into a driving force of development. This study serves as a starting point of evaluating the impacts of digitalization on physical bookstores, analyzing the development trend of paper books relative to e-books, investigating book consumers' reading habits and tendencies, reinforcing the need for adaptation and innovation, and ultimately providing practical insights for physical bookstores to achieve long-term business viability. It should also be noted that physical bookstores are one of many business domains adversely affected by information technologies like online shopping and online content publication. Some of the findings from this study may serve as a basis

for further exploration of how other traditional businesses can adapt and innovate. This study might be of interest to an array of readers especially those who are interested in possible conflicts between e-commerce and traditional businesses.

8. LIMITATIONS AND FUTURE RESEARCH

Variables and phenomena driving the decline of physical bookstores are not limited to those considered in this study. For example, China is a big country and thus there are substantial geographical discrepancies in terms of economic development and educational level across provinces and cities. Specific reasons for the decline of physical bookstores in different geographical regions are likely to be different. Therefore, a single study is not likely to cover all the possible reasons. Moreover, the respondents' profile of this study may be too narrow as those "above the age of 48" might not be regular users of social media where this study's survey questionnaire was hosted, while those "under the age of 18" might not have independent access to the questionnaire via smart phones.

Past research on the topic of this paper is limited, this study therefore is expected to open up opportunities for further research. For instance, future research could focus on one particular demographic group of book consumers to give more specific and precise understanding of the reading behavior within a particular consumer group. Moreover, findings from this study will be a useful reference for future studies related to brick-and-mortar businesses in other sectors and how they can evolve and adapt themselves into different business models in the era of digitalization. In addition to providing a foundation for future research, this study turns the focus from the question of "how to survive?" to the question of "how to adapt?". The potentials of physical bookstores can be realized and sustained through further research-based exploration of alternative business models.

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