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(Full Paper)

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ABSTRACT

With the rapid development of the Internet and the policy support of "Belt and Road", cross-border e-commerce has become an important driving force for the growth of China's foreign trade. In the digital economy, the trading of digital products has expanded to include international trade. Different from the traditional goods and service products, the convenience of the transaction of digital products and globalization lead to different trade development strategies. Based on the mobile Internet, this paper analyzes the sea-going history of content-based digital products companies and summarizes the laws of the sea to help companies in western China understand the status quo of digital products trade and better determine the development strategy of digital products trade.

Keywords: Digital products; international trade; companies put out to sea

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DEVELOPMENT STATUS OF DIGITAL PRODUCTS

Related concepts

The digital product is defined as the digital product in the US tax act, which refers to any other goods that are transferred or delivered by any software or electronic means (Li, Zhou & Tian, 2014), including the audio, pictures, data, facts or combinations that exist in the digital format. The impact of digital products on global value chain is disruptive. Digital products lead to the redistribution of international trade interests, and the international trade rules centering on the transaction of digital products will become the main trade rules in the 21st century (Shen & Jin, 2017). Overall, China's digital products trade has seen mixed growth in digital content, social media, search engines, other digital products and services. Comparatively speaking, the digital publishing industry, on the one part of digital content, has reached a new high in output value with the rapid development of the world.

According to the classification of the purpose and existence form of digital products, there are two kinds of common classification methods:

- (1) According to the use and nature of digital products, digital products are divided into three types: content products, exchange tools, digital processes and services: Content products refers to the expression of certain content of digital products. This kind of product mainly has the news, the publication, the movie and the music three forms of expression. Exchange tools refer to digital products that represent a contract, such as digital tickets, digital reservation, etc. Digital process and service mainly refers to digital interactive behavior. Such as distance education, online games, interactive entertainment.
- (2) On the premise that digital products are all bitstreams and eliminate the physical boundaries between production and use, son-yong Choi divided digital products into three categories: Information and entertainment products, such as paper information products, product information, image graphics, audio products and video products. Symbols and concepts, such as flights, concerts, stadium booking process, checks, electronic currency, credit CARDS and other financial tools. Processes and services, such as government services, letter and fax e-consumption, distance education and interactive services, cafes and interactive entertainment, etc.
- (3) The author understands digital products as electronic commodities in a narrow sense, excluding physical disks. It can be divided into the following four categories: Digital service products, which refer to websites providing online services for consumers, such as e-government, distance education and online medical treatment; Tools and practical products that can help users complete specific tasks, such as online games, software and mobile apps. Content digital products, whose value lies in the content they carry, such as information products, e-books, online entertainment products. Symbols and concepts. The digital products are only symbols and symbols of traditional commodities, such as virtual currency and electronic tickets.

China's digital products enterprises are developing rapidly at sea

Due to the explosive development of modern information science and technology, and the policy support of "the Belt and Road", Cross-border e-commerce has greatly promoted the growth of China's foreign economic and trade, what followed is the transaction of digital products has expanded into international trade.

According to the 2016-2017 China Digital Publishing Industry Annual Report, the total revenue of China's digital publishing industry in 2016 was 572.85 billion yuan, what is 29.9% higher than 2015. In the publishing industry, e-book revenue is 5.2 billion

yuan, Internet journal revenue is 1.75 billion yuan, digital newspaper revenue is 900 million yuan, and blog application revenue is about 4.5 billion yuan. Among them, Internet advertising revenue is the highest, about 290.2 billion yuan, followed by mobile publishing revenue of 139.9 billion yuan, online game revenue of 82.7 billion yuan, online education sustainable development with revenue of 25.1 billion yuan, online animation of 15.5 billion yuan, and online music of 6.1 billion yuan.

From the area of China's offshore enterprises to analyze, most of the 6254 enterprises out of the sea, according to the Research Institute of Baijing, are the first-tier cities, such as Beijing, Shanghai, Guangzhou, Shenzhen. Among them, Beijing's enterprises account for 26.8%, which is the largest city for mobile Internet enterprises in overseas. And the emerging Internet cities such as Xiamen, Hangzhou and level, whose mobile sea business have grown rapidly. In western China, only Chengdu entered the Top10, ranking fifth, and 327 overseas enterprises, accounting for 5.2% of the total.

According to the analysis of the international trade area of digital products, developed countries mainly include the United States, Canada, Germany, Portugal, and developing countries mainly include Mexico, Indonesia and India.

From the time dimension of international trade of digital products, the international trade of digital products is mainly the trade of tool products from 2012 to 2015. Since 2015, game and content products have gradually opened up new business models for trade. Since 2016, the development of international trade in content digital products has been gradually moving towards scale. Among them, digital culture, news information, social live products and business have been expanding rapidly overseas, as shown in table 1.

Table 1: List of major content products in China

Name	Time	Enterprise	Financing conditions	Overseas target market	Overseas development status
News republic	2012.3	Cheetah Mobile	Bought by Headline	US	Overseas revenue accounted for more than 60%, Chinese companies ranked No.9 in the sea
Uc news	2016.5	Alibaba	Listed	India,Indonesia	International retail revenue for the first quarter was 2.638 billion yuan, compared with the same period last year growth of 136%
BACA	2016.1	BACA	B round \$20 million	Indonesia, Brazil	More than one million active users per day in Indonesia, global downloads reached 490 million as of June 2017
ByteDance	2015.12	ByteDance	2017 8.1 E-round \$2 billion	Japan, India, Southeast Asia, Brazil, and North America	ByteDance variety of products occupy the top three overseas local App Store/Google Play listings for a long time.
Musical.ly	2014.4	Shanghai WeShare Technology	Bought by Headline	USA	Global active daily users exceed 20 million, of which more than 6 million active users in North America
BIGO LIVE	2016.3	Huadoo Networks	C-round \$100 million	India, Middle East and other Southeast Asian regions	In April 2017, the number of registered users of the live broadcasting application has exceeded 100 million.
Live.me	2016.4	Cheetah Mobile	US listed	USA, Germany	Over 50 countries and regions in the world with more than 15 million downloads
Readtext Group	2017.5	Readtext Group	Listed	Southeast Asia and Europe and America	Joint Third Party Platform to Create Internationalization Route
Wuxiaworld	2014.12	Wuxiaworld Co., Ltd.	Unfinanced	United States, etc.	Worldwide Alexa ranking 954 (April 2017), Daily average number of independent visitors reached 979,200, average daily page views reached 14,492,200
iReader Technology		iReader Technology	Listed	Korea, United States, Thailand	By the end of 2017, Palm has more than 100 works authorized to overseas

Main obstacles for digital content products to go to sea

The development of content digital product enterprises in overseas markets will be subject to local regulatory and policy restrictions, which can be analyzed in four areas: market access and investment restrictions; Data protection and network security; Tax issues; Intellectual property rights, content review, etc.

First, whether the target market allows foreign investment and product entry will impose certain restrictions. Some countries for digital products enterprises to improve the barriers to entry, first consideration should be given to the region market access principle in overseas markets, including local enterprises accounted for more than requirements, local demands, import substitution, etc. For example, Indian digital products enterprises must establish joint ventures with local enterprises to enter the market.

Second, restrictions on network security and data protection. As digital trade expands, there are more and more cross-border data flows. However, some countries require data localization to ensure privacy and information security. In addition, many countries, such as the UK, Brazil and India, have added restrictions to protect cyber security, making it harder to get in. The following are some national policies and measures on protection of data and cybersecurity.

Table 2: Data Protection and Network Security Related Policies in Major Regions

Country	Policy	Content
United States	"Digital Trade Article 24"	Emphasizes network openness and security, builds adaptive frameworks for digital trade (to protect innovative digital products and services), requires parties to allow free flow of data across borders, and prohibits data storage localization, ICT Product tax exemption
	"Digital Trade and U.S. Trade Policy"	Stresses that U.S. Congress should play a key role in shaping global digital trade policies and respond to growing trade challenges.
EU	"European Union Electronic Commerce Directive"	The EU adopts laws to strictly protect data privacy and data flow in digital trade.
	"General Data Protection Regulations"	Improve cross-border data flow mechanism and strictly protect data
	"Privacy and Electronic Communications Regulations"	Stipulates that its privacy protection rules will apply equally to emerging electronic communication service providers and further strengthen the protection of electronic communication data.
Japan	"Personal Information Protection Amendment Act"	Added new information such as the addition of anonymous information, the establishment of personal information protection committees, and cross-border transfer of data to the current development of the technology industry. New restrictions on sensitive information, including the prohibition of Acquire and provide sensitive information with the consent of the data subject.
India	"National Cyber Security Strategy"	Emphasizing the Development of Local Information Technology Products and Reducing the Potential Threat of Imported High-tech Products to National Security

Third, restrictions on tariffs. Different from traditional commodity trade, the emergence of digital product trade brings certain challenges to taxation. At present, relevant tariff regulations are not perfect enough. The US, for instance, advocates of tax exemption, while the European Union advocates VAT on digital products. In addition, some developing countries advocate tariffs on digital products to protect their companies.

Fourth, Restrictions on intellectual property rights, and strictly scrutinize content. National intellectual property laws and regulations block the entry of content-type digital companies, such as Germany and Spain have some provisions on the content, for example if the network platform to news publishers to pay a certain fee, only allows the press to provide platform for users. In addition, the increased national review of product content will also hinder the development of many digital content providers.

Bilateral and multilateral trade rules

Due to the explosion of trade in digital goods, countries and governments are actively exploring relevant trade rules. However, there are some differences among countries on digital trade. First of all, the United States, as a strong digital economy, supports the largest liberalization of international digital trade, and actively promote the establishment of digital trade in all kinds of agreement rules. Second, EU is very strict about data protection and has some differences with the US. China and other developing countries are also actively participating in the promotion of new international trade rules for digital products.

The current major multilateral trade rules are as follows:

Table 3: The current major multilateral trade rules

Time	Relevant agreements	The main content
1996	The information Technology Agreement (ITA)	Liberalization measures were proposed for trade activities in the IT sector, and 53 of the members expanded the agreement in 2015, eliminating tariffs on 201 additional products
2013	Trade in Service Agreement (TiSA)	Twenty-three WTO members are participating to further open up global trade in services, including e-commerce, telecommunications and financial services
2002	Trans-Pacific Partnership Agreement (TPP)	We will prohibit data localization requirements, eliminate tariffs on electronic transmission and digital products, and require greater cooperation from participants. The us joined in 2009 and quit in 2017
2018	Comprehensive Progressive Trans-Pacific Partnership (CPTPP)	The exit after the TPP by 11 asia-pacific countries to participate, retain the original over 95% of the TPP agreement, in market access, trade facilitation, electronic commerce and trade in services and so on are no difference, the difference lies in the intellectual property rights.

CASE ANALYSIS OF CONTENT DIGITAL PRODUCT ENTERPRISES

According to the use and nature of digital products, digital products can be divided into three types: the first type is content products, such as news information, e-books, music, video, etc. The second is the exchange of tools, including digital tickets, digital reservation, etc. The third is digital processes and services such as remote education, online games and so on. (Du , Xue & Gao, 2005).

The author thinks that content digital products based on mobile Internet can be classified into three categories: first, digital content, including electronic newspapers, digital periodicals, etc. Second, information products, such as databases, news reports, etc. Third, online entertainment products, including digital music, film video, etc. Next, we will analyze each kind of typical overseas enterprises in detail.

Digital content --iReader Technology

The encouragement of national policies of "the Belt and Road" provides the policy convenience of digital product trade and investment. Meanwhile, demand for e-books from overseas readers is growing. On the basis of the report from iResearch, digital readers accounted for 29.8% in Europe, 27.7% in North America and 27% in Asia in 2017, which means economically developed regions accounted for a relatively high proportion. As for the specific country, America has the most number of online readers, accounting for 20.9% of the total overseas users, followed by Brazil, India, Canada, etc. That has prompted many digital-publishing companies to step up their pace at sea. Among them, iReader Technology takes advantage of the opportunity of "the Belt and Road" to expand its business to countries along the belt and road and conduct overseas layout.

iReader Technology is an excellent mobile reading brand in China, with the vision of "being the most professional reading platform in the world". With "product and technology" as the starting point. iReader Technology pay attention to the quality of digital content and smooth reading experience, build the reading platform, and the whole industrial chain. In 2015, iReader Technology entered into a cooperation agreement with South Korean and Malaysian companies. In 2016, its mobile app iReader has topped the bestseller list in reading categories in more than 60 countries and regions, providing overseas users with 300,000 volumes of Chinese content, 50,000 volumes of English content and tens of thousands of volumes of Korean and Russian content. In 2017, it reviewed and entered Southeast Asia, and reached a partnership with Thailand's Hongshan Publishing Group. At the same time, iReader Technology mainly developed Southeast Asia, Russia and circumjacent area. In addition, the overseas business division of iReader Technology has developed a "three-step strategy for going out" to speed up China's content products to sea.

The main profit of iReader Technology is digital reading revenue, while the revenue of copyright, advertising, hardware and other businesses is also rising. In the past, iReader Technology has been regarded as a conservative company, with 8 internal financing and only one external financing in the nine years since its establishment. The a-round financing was completed at the end of 2015, and the investor was invested by Sinochem and Aofei animation, with a valuation of nearly \$1 billion. In July 2017, the IPO round was completed, and the IPO was successfully listed on the main board of Shanghai stock exchange in September.

Table 4: Financing process of iReader Technology

Time	2015	2016	2017
Round	A round	A round	IPO
Leading Investment	Aofei animation,	National capital investment	Unknown
Capital	about \$100 million	about \$100 million	Unknow

The author believes that the main strategies of his company's overseas operations are as follows: First, the iReader Technology and the mainstream publishers in various countries establish cooperative relationships, and they can sell digital content publications directly to the sea, or translate the product into the local language for sale. Second, iReader Technology actively participates in international book fairs and showcases Chinese culture to all countries. Finally, iReader Technology established a content translation and distribution platform in various countries. Through combining local cultural backgrounds, Chinese publications were translated and reprocessed and disseminated.

News and Information – ByteDance

The main areas of development for news and digital products are Brazil, India and the US. Among them, ByteDance has a special maritime history, which can be divided into two phases: early exploration phase (2015-2016):Through the development of digital products on the international market and the export of large amounts of capital, it would entered the developing countries such as India and ease out to the sea. The radical expansion phase (2017 - present):It mainly used investment and acquisitions to shift the target from developing countries to developed countries such as the United States. In addition, ByteDance's business model had gradually shifted from the graphic field to video.

One of the main strategies of globalization is "investment + acquisition." On the one hand, ByteDance had entered a bottleneck in domestic development, hopes to improve its business by developing business in other countries. On the other hand, there were many restrictions on the process of ByteDance out to sea, such as insufficient experience in localized overseas operation, insufficient user accumulation, and unresolved copyright issues. But ByteDance's direct investment in established overseas brands can easily solve these problems, thus focusing on its own technological advantages and accelerating growth.

Table 5: Acquisition process of ByteDance

Time	The event
August 2015	ByteDance launches overseas edition TopBuzz
September 2016	TopBuzz Video online
October 2016	Invest in Dailyhunt, India's largest news aggregator
December 2016	Controlling stake in Indonesian news recommendation platform "BABE"
February 2017	The wholly-owned acquisition of the well-known short video community Flipagram in North America
July 2017	Online volcanic small video overseas version of Hypstar
August 2017	Online music short video software hi-fi foreign edition TikTok
November 2017	Participated in the financing round of live.me B, a subsidiary of cheetah mobile, and wholly purchased News Republic, an overseas mobile News information product of cheetah mobile
November 2017	Wholly-owned acquisition of music video sharing and interactive social app musical.ly

Today, ByteDance focuses on the personalized needs of users and delivers accurate content and service business traffic realization mode based on recommendation engines and related technologies, mainly from advertising precision system revenue. ByteDance today 2012 Susquehanna Asia millions of dollars to A round of funding, in 2013 attains the DST/Yun Miner tens of millions of dollars to B round, Sequoia capital and Sina Microblog funds 2014 C \$100 million round of funding. At the end of 2016, ByteDance actively sought for overseas expansion and obtained \$1 billion of international financing from Sequoia Capital, valued at about \$11 billion; After the e-round in August, the valuation of ByteDance has surpassed \$22 billion.

Table 6: ByteDance financing process

Time	2012	2013	2014	2016	2017
Round	A round	B round	C round	D round	E round
Leading Investment	Hainer Asia	DST/Yun Miner	Sequoia Capital, Sina Weibo Fund	Sequoia Capital, Forgan International	Unknown

Capital	millions of dollars	tens millions of dollars	100 million US dollars	1 Billion Dollars	Unknown
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Video and social - Musical. Ly

Different from the investment and purchase of overseas products by large enterprises, Shanghai Audiology Network rapidly went to sea depending on the uniqueness and attraction of its products, such as the popular Musical. ly and Live. ly in North America. Musical. ly was officially launched in July, 2014. Its main theme is the social app of short video and music. Users can upload music small-video with a 15-second duality to the platform.

Musical.ly has A tortuous financing history, and more than 20 investors rejected them in the A round. And cheetah in the internationalization of timing, in April 15, the investment of 5 million yuan A round of financing. Since then, round B has been invested by SIG, GGV (source capital) and Greylock Partners. C round is invested by qiming, guangxin, junlian, morningstar, DCMVentures, Goodwater. In November 2017, Bytedance made a wholly-owned acquisition of it, after all the investors who had been to C round of financing withdrew from the company. The profit model of musical.ly is still unclear, but it is still working on user growth and traffic accumulation, because traffic can be monetized through advertising at any time in the US.

The author thinks that its overseas success under the reasons: First, the goal is clear. Musical. ly focused on the US market, and abandoning the domestic market, directly to the target group for American teenagers. It seized the customer demand, lowered the threshold of the user content production. Second, in order to eliminate cultural barriers, they build local teams and done a good localization operation. The operation team timely analyzed the American pop culture in the start-up process, and as early as the beginning of 2015 Musical. ly set up a north American team to connect with local customers, which was conducive to localized operation. Third, gradually expand product functions and maintain user stickiness. As the users of Music.ly grew, it not only developed video features, but also gradually established entertainment communities to maintain the stickiness and increase the activity of user.

The successful of Music.ly in oversea markets shows that China's content digital products enterprises can expand overseas without relying on the overseas enterprises or the acquisition of overseas enterprises with a large amount of capital. Enterprises should grasp the internal demand of overseas users, strengthen innovation according to the needs of users, and export content products depending on the attraction of products.

SUGGESTIONS FOR ENTERPRISES WITH DIGITAL PRODUCTS IN FOREIGN COUNTRIES

Establish target market according to product orientation

Digital product enterprises should first understand the differences between different regions and the acceptance degree of products according to their product positioning, and establish the target market for going to sea. The author analyzes and summarizes the strengths and weaknesses of digital products exported from major regions as follows:

Table 7: Advantages and disadvantages of going to the sea in major regions

Region	Advantages	Disadvantages	Suggestions
United States, Britain and other developed countries	High level of mobile Internet development, user spending power and strong sense of pay	Internet products are mature and difficult to enter	Develop unique digital products, seize the key points of regional users cut into the market
Europe	Mobile Internet development is slightly lower than China	Cultural barriers are higher, population is dispersed and geopolitical differences are large	Content-based digital product companies can use Europe as an alternative market
South East Asia	The development of the Internet is low, and the cost of obtaining customers is low.	There are no cultural barriers. Awareness of copyright protection is strong, and the cost of copyright of information products is higher	Consider exporting social video digital products to the region
Middle East, Africa and other regions	Low level of Internet development, strong content and social needs	High barriers to culture due to language and historical reasons, localization is challenging	Content-based, social-oriented products, local conditions Precision marketing

Therefore, it is suggested that digital content products should focus on the Middle East and Africa. Live and social network digital products can be exported to southeast Asia, and news aggregation digital products can be focused on Indonesia and other regions. And distinctive digital products can try to enter the United States and the US and other countries.

In-depth understanding of relevant rules and conditions of digital trade

After establishing the target market, digital product enterprises should understand the differences between the two parties' laws before going to sea, be familiar with the access scope and relevant laws of the target market. Firstly, digital product enterprises should improve their ability to adapt to the rules of international trade market, and turn passive acceptance into active use of trade rules. Secondly, they should master and analyze the laws of the target market, and conduct a lot of research in this area in advance, take effective measures to prevent various risks and safeguard the rights of enterprises. Specifically, enterprises can strengthen the training of relevant legal personnel or cooperate with experienced law firms.

Build a localized operation mode

Good local operation is crucial to the growth of overseas users. Compared with instrumental digital products, the content type of the digital products need more depth of understanding of the local language, culture, rules, and religious practices, design aesthetic differences, not only to localization, content and commerce but also political culture localization.

Digital content products can make localization operation from three aspects: first, the enterprise can partner with local ones to gain access, such as the palm reading before science and technology through the mainstream press with other countries to establish relations of cooperation, make digital content product localization. Second, invest in acquiring local companies for expansion. Today, Japanese headlines directly acquire overseas brands to solve copyright and local operation problems. Third, the enterprise can establish a target market of the overseas team, and even set up a local team, through their own Internet talent cooperation with local talent market, development based on local conditions, avoid to use the Chinese model.

Digital content products should ensure the quality of content, develop around high-quality IP, adhere to the spirit of craftsmanship, and create products suitable for local reading, so as to achieve user growth. At the same time, we will strengthen the construction of new media marketing capabilities and make full use of the growth modes of social media, web celebrity or star marketing to obtain user resources.

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