Macroeconomic Analysis of POP MART



An Independent Study Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Arts in Business and Managerial Economics Field of Study of Business and Managerial Economics FACULTY OF ECONOMICS Chulalongkorn University Academic Year 2020 Copyright of Chulalongkorn University



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การวิเคราะห์ปัจจัยด้านเศรษฐกิจมหภาคของธุรกิจ POP MART



สารนิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาศิลปศาสตรมหาบัณฑิต สาขาวิชาเศรษฐศาสตร์ธุรกิจและการจัดการ สาขาวิชาเศรษฐศาสตร์ธุรกิจและการจัดการ คณะเศรษฐศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย ปีการศึกษา 2563 ลิขสิทธิ์ของจุฬาลงกรณ์มหาวิทยาลัย



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Independent Study	Macroeconomic Analysis of POP MART
Title	

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หรูเขา ไช่ : การวิเคราะห์ปัจจัยด้านเสรษฐกิจมหภาคของธุรกิจ POP MART. (Macroeconomic Analysis of POP MART) อ.ที่ปรึกษาหลัก : พัชรสุทธิ์ สุจริตตานนท์

อย่างรวดเร็ว บทความนี้นำเสนอการวิเคราะห์จากมุมมองของ POP MART และอุตสาหกรรม วิเคราะห์ POP MART จากมุมมองค้านเสรษฐกิจมหภาค และให้คำแนะนำกับธุรกิจ บทความนี้จะวิเคราะห์ค้วยวิธีการทั้งเชิง คุณภาพและปริมาณ โดยใช้ข้อมูลสาธารณะระหว่างปี 2015 และ 2020 จากสำนักงานสถิติแห่งชาติจีน ผลของการศึกษา พบว่าเหตุผลที่ POP MART ประสบความสำเร็จคือการออกแบบตัวละครที่เป็นทรัพย์สินทางปัญญา ห่วงโซ่อุปทานที่ ครอบคลุมและการขยายตลาดไปยังต่างประเทศ แม้ว่าจะอยู่ในสถานการณ์การแพร่ระบาดของโควิด POP MART ยังคงมี ส่วนแบ่งตลาดส่วนใหญ่ได้



สาขาวิชา	เศรษฐศาสตร์ธุรกิจและการจัดการ	ลายมือชื่อนิสิต
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 PACHARASUT SUJARITTANONTA

Trendy toy industry, the newest and fastest industry nowadays, has been growing rapidly. This paper aims to present comprehensive views from both POP MART and trendy toy industry, conduct macroeconomic analysis to analyze POP MART, and provides recommendations for the business. This paper employs the quality and quantity method, using public data between 2015 and 2020 from China National Bureau of Statistics. The result of this study that the reasons of POP MART get success is IP characters design, a comprehensive supply chain and oversea market expansion. Even under the COVID-19 pandemic, POPMART still maintain a large market share.



Field of Study:	Business and Managerial	Student's
	Economics	Signature
Academic	2020	Advisor's
Year:		Signature

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> จุฬาลงกรณ์มหาวิทยาลัย Chulalongkorn University

> > Ruyao Cai

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INTRODUCTION

1.1 Introduction

The history of trendy toy mystery box can be tracing back to the "Lucky bags" in department stores in Japan. Nowadays are widely used as a popular way to sell trendy fashion toys. The trendy toy mystery box satisfies users' social needs and sense of belonging to the community. It meets users' multi-level needs for value, collection, surprise, display and social interaction, and greatly stimulates the desire to buy. From the previous studies we know that the global trendy toy mystery box market continues to maintain high growth rate, that the Chinese trendy toy industry chain can be divided into upstream (Intellectual Property) IP licensing or IP originality, midstream product design and manufacturing, and downstream channels, marketing and community in the social media. POP MART as the first Chinese trendy toy company to apply for listing, especially in 2019 POP MART has the top market share account for 8.5% though the top five trendy toy companies.

1.2 Research Objective

The Purpose of this individual study is to Macro analysis the POP MART's strategies throughout the Chinese trendy toy industry market. And more to give the suggestion to improve their advantages as well as help the company using the macro strategies to keep winning the competition in the future trendy toy mystery box market.

2. Methodology and Data Gathering Process

2.1 Methodology

This individual study focuses on the POP MART's Macro analysis with the Chinese trendy toy mystery industry, using both quantitative and qualitative research methods. The main macro methodology analysis including macro-economic environment, government policy, technological environment, social-cultural environment and

comparative advantages.

2.2 Data

The individual study is using the data that mainly collect from POP MART 2020 Annual Prospectus and China National Bureau of Statistics data.



3. Company Overview

3.2 General Overview

POP MART was found in 2010, it is a leading trendy culture and entertainment company in China (LIMITED, 2021). The core business for POP MART is focus on the IP production, also the company is the only firm in the mainland Chinese trendy toy industry with an integrated platform covering the industry chain, focusing on four areas: artist discovery, IP incubation and operation, consumer reach, and trendy play culture promotion and culture cultivation.

The Company develops a variety of original, unique and interesting trendy toy products based on IP, including mystery box, hand puppets, Ball-jointed Doll and its derivatives. In the 2019, POP MART achieved revenue of 1.683 billion yuan (YOY +227%) and net profit of 451 million yuan (YOY +353%), making it the largest and fastest growing trendy toy company in China. POP MART also has the oversea branch which the Overseas sales revenue still grew from 26.89 million yuan in 2019 to 74.17 million yuan in 2020, a growth rate of 176%. The revenue share grew to 3% of the overall revenue for the year. POP MART still more focus on the Chinese domestic market and trying more expanding the oversea market.

3.2 Company Chain

1) Control the top IP resources, integrated platform for efficient operation

The company has built a complete and efficient industry platform, with 85 IP has available right now, and two well-known IP, Molly and PUCKY, generating a combined revenue of nearly \$800 million, contributing 55.7% of the revenue from self-developed products, and discovering a number of top artists to enrich the IP reserve, and new IP are expected to provide sufficient momentum for the company's growth.

2) Build a full-coverage sales network online and offline, same store

growth rate is significant.

POP MART has a total of 114 retail stores in China, and 825 robots stores and many online flagship stores.

3) The promoter of the trendy toy culture

Organizing several international hipster exhibitions attracting hundreds of hipster fans worldwide. Creating a social platform for trendy toy trading and attracting many trendy toy brands. Also, company develop the second hand

3.3 Company Products

Product	Type Distribution
	Trendy Toy: POP MART cooperated with many famous designers to launch a variety of popular trendy toys
X	Ball-jointed Doll: This is a spherical joint can turn the doll, plasticity, consumers can create their own personalities according to their favorite character image
	Anime: POP MART has lot of anime character copyright
	Peripheral derivatives: Cooperate with many famous companies, such as Marvel, Disney and Ali.

Table1: POP MART main products

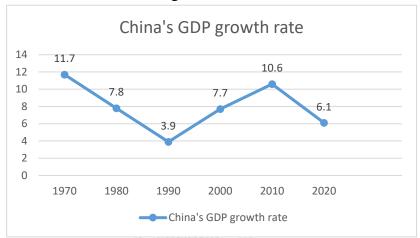
There have three main products supportive the IP right, POP MART using the cooperate with other company which own the original IP character to get the copy right and use these classical characters to create the Trendy toy mystery box, for example Marvel and Universal give their copy right to POP MART and allowed to manufacture the trendy toy mystery boxes. POP MART not only cooperate with anime companies but also self-develop their own IP character such as Yuki, BOBO&COCO. The company will also collaborate with famous artist to get their exclusive license IP characters design and make the trendy toy mystery box to sell only at mainland China.

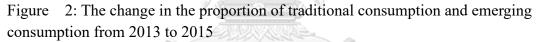
4. Macro Analysis

4.1 Macro-economic Environment

4.1.1 GDP Analysis

Figure 1: 1970-2020 China's GDP growth rate





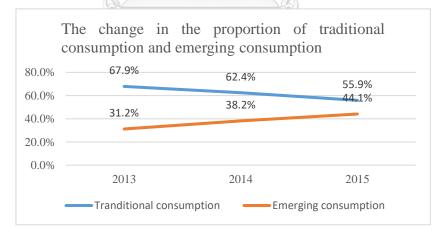


Table	2: Value Added a	nd Growth by	Separate Industry	/ in China	2020 (RMB)

Year	Primary Industry	Secondary Industry	Tertiary Industry
2019	70474	380671	535371
2020	77754	384255	553977
Growth Rate	3%	2.6%	2.1%

According to the report from Wind the China's GDP has growth generally though the decades, as we can see the annual growth rate has experience a high-speed growth with

average 10% per year. Going to the growth rate change period, the annual GDP growth rate is around 7.3% per year. Which means Chinese economy has a booming growth, and income per capita growth.

China's GDP per capita continues to grow, leading all people into a new era of consumption. into a new era of consumption, in which culture and entertainment in consumer spending is increasing year by year. The per capita disposable income of urban residents nationwide rose from 17,175 yuan in 2009 to 33,616 yuan in 2016, nearly doubling in seven years. The proportion of emerging consumption represented by culture and entertainment, health care in consumer spending has been rising year by year. In 2015, the added value of culture and related industries in China was 2.7 trillion-yuan, accounting for 4% of GDP. The share of culture and entertainment in consumer spending is increasing year by year, and in 2015 the emerging consumption are around 44.1%. which means Trendy toy mystery box as a part of emerging consumption shared more than before.

Although in 2020 we have to facing the COVID-19, it is not easy for China to maintain positive GDP growth. In 2021, China is expected to see an acceleration of the economy on the premise that the pandemic has well under control, and it expect China's GDP to return to a high growth range in 2021. According to the National Bureau of Statistics within the industries, the tertiary industry has the lowest growth rate, which trendy toy included in this industry. It has the biggest influenced by pandemic, but it still has a positive increasing. Market sales recovered faster due to the live shopping and online shopping during the pandemic, the growth rate of consumer upgrades increased, people want to purchase more products such as entertainment and education, but the recovery of consumption is still slow.

Since the companies are starting the business again, people's spending power and consumer confidence will be continued going up, consumption potential remains. Moreover, with the government financial support for pandemic prevention and control, the real economy and economic recovery continues to grow. The future development for trendy industry will be affect by more focus on the online sale and robot sale, which will push POP MART start to focus on online development and online stores.

4.1.2 Chinese Household Analysis

Figure 3: 2007-2019 the family size in Chinese household

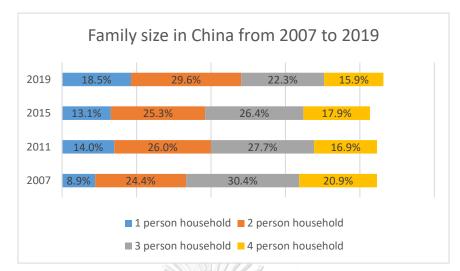
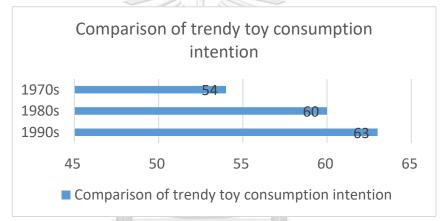


Figure 4: Comparison of trendy toy consumption intention for people who born between 1970s to 1990s



As the main consumer in China in 2020, the new baby boom as the third generation. The information according from the National Bureau of Statistics, the tendency to be unmarried has increased: the total proportion of single and two-person households has increased, reaching 48.1% in 2019 including 1 person household and 2-person household, with the tendency to be single increasing and the number of unmarried people increasing. Base on the high similarity of the demographic structure and factors, the Chinese consumers are more likely to be personalized behavior among the youngers, and more gradually breed new self-pleasure demand.

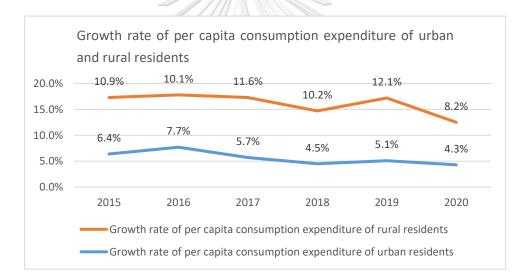
Nielsen data shows that the 1990s have gradually become the main force of trendy toys consumption in the Chinese market. In terms of willingness to spend, the 1990s have 63 points, higher than the 1980s (60 points), 1970s (54 points) and other generation groups. The 1990s are more willing to consume and have a more open attitude and interest in self-exploration. They no longer only pursue material needs, but also value emotional satisfaction, so their consumption concepts are very different from the previous generation.

The decrease in the size of family households has led to an increase in the number of

single people in the country and changes in the lifestyles of the population. The marginal propensity to spend is much higher among singles than among non-singles. When shopping, consumers will not only consider the function and performance of the goods but will also choose according to its symbolic value and their own mood. Therefore, products in this generation began to focus on symbolic meaning such as physical appearance.

4.1.3 Per Capita Consumption Expenditure Analysis

Figure 5: Growth rate of per capita consumption expenditure of urban and rural residents in 2020



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Table	3. Trendy toy mystery	nox application lising	Percentage of lower markets
ruore	5. Itendy toy mystery	oon uppiroution using	i creentage of lower markets

	5 5 11	0 0	
Year	Third-tier cities	Fourth-tier cities	Fifth-tier cities
2019	14.3%	11.2%	7.2%
2020	15.7%	12%	6.4%

The Chinese city tier system is a hierarchical classification of Chinese cities (Unionpedia, 2021). It influences by commerce, transportation, education and more. According to the National Bureau of Statistics, from the two graphs it's clear to see that the percentage of rural residents' consumption expenditure has generally growth than urban residents. Even within the 2020 effect by COVID-19, both rural and urban areas are facing the gap between income growth rate and before COVID-19 income growth rate is still obvious. Income is the key factor affecting consumption. We know

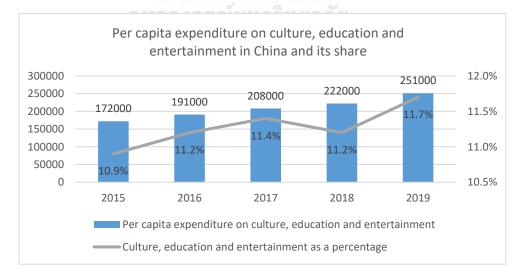
that at present the overall income growth rate is stable, but it's still far from the situation that before epidemic level. And people's expectations of income have been affected to a certain by the pandemic, it will become a rebound in consumption in the short-term. Due to the pandemic consumer's confidence and willingness to consume has not fully recover than before. Under the certain COVID-19 impact and macro environment uncertainties, people are more carefully about their economic conditions, less confidence consumption and stronger willingness to save.

However, rural residents still are a big potential market for trendy toy market. As well as the percentage of trendy toy mystery box applications though the city tier is more increased in lower tier cities. Especially, the growth rate increase from 32.7% to 34.1% from 2019 to 2020, which means the potential consumers in the lower tier cities are lot. Although the absolute value of per capita consumption expenditure for Trendy toy in the lower market is not high, the growth rate is still significant, the lower market has become the main competition market in major industries. And trendy toy mystery box users are mainly concentrated in first tier and new first tier cities, but the proportion of users in the lower market is gradually increasing, and it is still possible explore in the future.

4.1.4 Per Capita Expenditure on Culture, Education and Entertainment

Analysis

Figure 6: Per capita expenditure on culture, education and entertainment in China and its share from 2015 to 2019



Source: Design and Application of an Evaluation Index System for Urban Development Quality of China's Sub-provincial Cities in the New Era (Liu, 2020)

China's K12 Online Education Research Under The Epidemic: Satisfaction Analysis on K12 Distance Learning (Xu, 2020)

Generation	Consumption level
1980s	468
1990s	1194
After 1995s	3052

Table4: Consumption level (Billion Yuan)

According to the National Bureau of Statistics, from 2015 to 2019 the per capita expenditure on culture, education and entertainment and its share are likely to growth gradually (Xiao, 2017a). The culture, and education and entertainment as a percentage achieve 11.7% in 2019. Which means Chinese consumers start to focus on the culture education and entertainment expense, with the continuous improvement of the living standard of the Chinese people, the content of consumption has been enriched and the quality of consumption has been improved. And the Engel coefficient of Chinese residents has been reduced than before, there have more demand on cultural contents, which encourage the relate companies start the business. Especially for people who are born after 1990s and 1995s, they had a strong willing for purchasing trendy toys among all age groups. According to the research that from OC&C strategy consultants, the majority of Chinese people who born after 1995s have a higher consumption level compare to people who born at 1990s and 1980s. They more care about the personalized and emotional products, therefore, they have more demand on trendy toys, also their parents are likely to spend money for them which push them become the highest consumption power for trendy toys and fashion products, it is familiar for them to receive the internet information and accept the trendy culture.

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4.2 Government Policy

4.2.1 Policies Related to Animation industry

In order to support the development of the trendy toy mystery box industry, the Chinese government has issued policy documents such as the "Thirteenth Five-Year Plan" for market supervision and the "Thirteenth Five-Year Plan" for national science and technology innovation, making it clear that the primary task of China's blind box industry at this stage is to strengthen product design and upgrade innovation, develop independent brand enterprises and enhance industrial competitiveness, while

improving product quality and safety standards, reducing the occurrence of product safety problems, further regulating the development of the blind box industry and avoiding the market from falling into chaos.

Policy	Department	Time
Notification on the declaration of the	The Department of Cultural	2016.4
2016 Animation support program for	Industries, Ministry of Culture	
promoting socialist core values		
Ministry of Culture's Cultural	The Department of Policies and	2017.2
Development and Reform Plan for the	Regulations, Ministry of Culture	
Thirteenth Five-Year Plan	1222	
Notification on the Continuation of VAT	The Ministry of Finance, General	2018.4
Policy for the Animation Industry	Administration of Taxation	
Opinions on promoting the high-quality	The National Broadcasting and	2019.8
development of radio, television and	Television Administration	
network audiovisual industry		

 Table
 5: Policies related to China's Animation industry

Source: Development of China's Logistics Industry During 40 years of Reform and Opening-Up: Achievements, Thrusts, and Outlook (Wang, 2020)

As the paper mentioned before, POP MART has the IP rights from the animation, cultural and television characters, and animation characters are the majority IP section for POP MART's design. Therefore, the policies publishing can promote the development of China's animation industry and continue to implement the VAT policy for the animation industry. Implement the policy of immediate refund and export exemption of value-added to the general VAT payers of animation enterprises for the sale of their independently developed and produced animation software. The deduction of VAT policy can reduce the tax burden on companies providing products and services, as well as reduce the tax cost can increase the profit of manufacturing companies thus enhancing their desire to invest and their ability to invest. The tax deduction can ensure the market price which will not increase the price on consumer side, and encourage consumers continuing consume the products, it can help the company explore more potential consumers in the lower market by a lower price. Also, the policy supports the creation, production and promotion of original animation, cultivate national animation creativity and brands, and continuously promote the development and promotion of standards for cell phone (mobile terminal) animation (Institute, 2021).

4.2.2 China's Trendy Toys Mystery Box Industry Related Laws and Regulations

Policy	Department	Time
Special Action to Improve Design	The Ministry of Industry	2019.10
Capability in Manufacturing (2019-2022)	and Information Technology,	
	National Development and	
	Reform Commission	
National deepening the "decentralization,	The State Council	2018.8
decentralization, optimization of services"	1	
reform of the key tasks of the TV and		
telephone conference to transform the		
functions of the government division of		
labor proposal		
The "Thirteenth Five-Year Plan" for market	The State Council	2017.1
supervision		
The Consumer goods standards and quality	The Office of the State	2016.9
improvement planning (2006-2002)	Council	
The "The 13th Five-Year Plan of National	The State Council	2016.7
Science and Technology Innovation		
The State Council on the promotion of	The State Council	2016.1
processing trade innovation and		
development of a certain opinion	ัทยาลัย	
	MUNEDOLEV	1]

Table 6: China's blind box industry related laws and regulations

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To regulate the development of the trendy toys mystery box industry, Chinese government has issued the policies that help the trendy toys mystery box development. POP MART as a company that also involve in toy manufacturing industry, these policies can efficiently give benefits though the manufacturing. Because the policy plan proposes to achieve the design upgrade of traditional advantageous industries. In the consumer sector, support intelligent ecological clothing, home textiles, industrial textiles, footwear products, toys home appliances, furniture and other design innovation. Strengthen the study of fashion trends to enhance the competitiveness of the industry. Which encourage POP MART deigns more innovative character among the market. In 2019 to toy products as a pilot, the implementation of mandatory product certification regulations-style catalog management. Promote the use of products, the use of the environment, consumer groups and raw material characteristics and other qualitative descriptions of technical regulations instead of

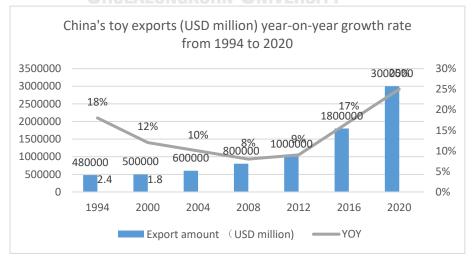
product enumeration way to define China Compulsory Certification (CCC) product range. Moreover, the policy promotes the production and design of children's products and the cross-border integration of Chinese domestic animation and cultural products to enhance the fun, entertainment and attractiveness of products, cultivate and develop a group of self-brands. Which POP MART already start to work with Chinese designers to launch the trendy toys mystery box characters with them. By working with them, POP MART had launched the mystery box toy which have a strong Chinese cultural style and the mystery toys have an organic unity of ideology, artistry and spectacle which comply with the society. Xiao explains that the policy mention that continues to develop textile and garment, footwear, furniture, plastic products, toys and other traditional labor-intensive processing trade industries, consolidating traditional advantages (Xiao, 2017b). Support enterprises to strengthen technological research and development and equipment renovation, improve the technical content and added value of products, and enhance the core competitiveness of enterprises (Sdaoke, 2021). POP MART as a company which cope with IP creation and operation-product production-toy sales-promotion of tide play culture. POP MART cooperate with OEM factory which gain more benefits are save cost and make sure the mystery box products have a good quality within the market.

4.3 Global Trade Environment for Trendy Toys

4.3.1 Export trade environment

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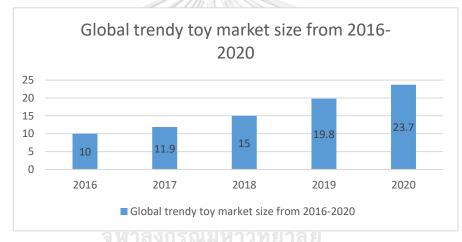




According to the report that from Wind The mature development of China's toy manufacturing industry provides strong support for the supply side of derivatives, with China's annual toy exports reaching US\$31.1 billion in 2020, up 24% year-on-year, with Guangdong Province being the largest toy exporting province, accounting for 60% of exports. Especially the online market, the consumption level becomes rapidly increase.

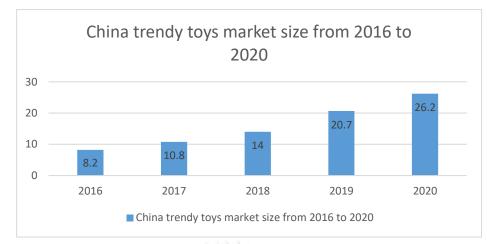
4.3.2 Global Trendy toys market size

Figure 8: Global trendy toys market size from 2016 to 2020 (USD One billion)



According from Frost & Sullivan Reports and POP MART Annual Prospectus, it mentions that the growth rate of global trendy toys market size from 10 billion U.S. dollars in 2016 in 2015 to \$19.8 billion in 2019, growing at a CAGR of 22.8%. Which means that global market still has a big opportunity to be discover.

Figure 9: China trendy toys market size from 2016 to 2020 (One billion RMB)



Although China's trendy toy market started late, it benefits from a large consumer base and grows but the speed is higher than the global trend. According to the Frost & Sullivan report, China's trendy toy market already accounts for about 15% of the global trendy toy market in 2019. China's trendy toys retail market size increased from 6.3 billion yuan in 2015 to 20.7 billion yuan in 2019, with a CAGR of 34.6%, leading the global level.

Country	Market size	Trendy toys per capita
		consumption (USD)
Japan	15	45.7
Korea	5	52.1
Singapore	0.7	38.7

 Table
 7: Japan, Korea, Singapore trendy toy industry market size in 2020

As the report from Frost& Sullivan that the trendy toys market in these three countries have huge space for improvement, moreover, in comparison with mature trendy toys market, China's trendy toys industry has huge space for growth, while the vast trendy toys market in Japan, Korea and Singapore will also provide a good living space for POP MART to go abroad. The report from CBNData also shows that during the 2019 to 2020 the Tmall Taobao overseas trendy toys mystery box consumption ratio and growth rate. The online overseas trendy toys mystery box consumption explosive growth, the consumption growth rate reached more than 400%. The online box drawer for sell Trendy toys mystery box Jumped to the top among each mystery box category selling channels. Therefore, at the same time of great success in the mainland China market, POP MART has also taken firm steps in the international market. Overseas business has spread to more than 20 countries and regions, including China, Hong Kong, Macao and Taiwan, Japan and Korea, Southeast Asia, Australia, North America and Europe (Han, 2020). Business covers overseas online and offline channels, online has opened up Japan, South Korea, France and overseas official

stores, offline success has entered South Korea, Singapore and other countries, the global layout continues to expand.

4.3.3 POP MART Oversea Branch

Due to the faster development through the cross-border export platform, it is helping Chinese trendy toys to develop the market more efficiently and influence more overseas trendy toy lovers. To attract oversea market, POP MART has adjusted the market for different country. The overseas toys lovers in the field of trendy toys is very similar to the Chinese audience, both are Generation Z (people who born between 1995-2009), which is the advantage of POP MART to develop overseas market. In fact, POP MART is also trying to enhance the overseas market's acceptance of Chinese trendy toys by means of IP cooperation, promoting cooperation with local artists to quickly gain the local market's recognition.

Country	2020 GDP per capita (USD)	Open date
South Korea	\$31500	2019
Japan	\$40000	2020.08
Singapore	\$59800	2019

Table 8: South Korea, Japan, and Singapore's GDP in 2020 and Branch open date

POP MART has launched the branch on oversea market, the company needs to start the analysis from three dimensions after considering the specific situation of different countries and regions: first, consider the negative factors and exclude the countries and regions with political and religious risks; second, the factor of physical distance; and third, the economic level.

The final list of two dozen countries and regions includes countries with relatively similar economic strength and culture, such as South Korea, Japan and Singapore. The relevant data show that South Korea's GDP per capita in 2020 will be about \$31,500 more than \$30,000 for several years in a row, Japan's GDP per capita is about \$40,000, and Singapore's GDP per capita in 2020 will be \$59,800, which is also among the higher levels in the world.

From the POP MART2020 Annual Prospectus, in August 2019, POP MART Korea branch was officially established. The sales strategy was adjusted according to the Korean market, with some series choosing to debut overseas and some overseas specials only available in certain areas. The branch placed orders with POP MART

headquarters four times a month according to sales and shipped the Chinese manufactured trendy toys mystery box to Korea. POP MART currently has more than 100 distribution channels in Korea.

The second important overseas market is Southeast Asia, where POP MART has chosen to focus on Singapore. Because, in exception to Japan and South Korea, Southeast Asia is another key area for POP MART to develop overseas markets due to the high cultural reception, consumption habits and preferences similar to China, and the rising overall economic development in Southeast Asia. In 2019 POP MART opening of a joint venture in Singapore, with the retail business completed by Singaporean company BIG BOX. At the same time, the number of new cooperative channels to Southeast Asia reached hundreds.

On August 7, 2020, POP MART's first Japanese direct flash store POP UP SHOP and Tokyo Shibuya officially opened, POP UP SHOP introduced robot store as an innovative business, to provide customers with a fast and convenient shopping experience, in order to quickly open the local market, this move indicates that POP MART officially announced its entry into Japan. Meanwhile, In December 2020, POP MART opened flash stores in the UK, expanding into overseas markets.

4.3.4 Challenging for Oversea branch

The hardest challenge is that the cultural policies vary from different countries, and POP MART needs to understand the local policies of each country before negotiating and resolving them. For example, different countries have different restrictions on foreign investment, some countries require their own funds to have the dominant power, and when POP MART without the right to decide on business, it is difficult to move forward with the overseas strategy.

And the second challenge comes from cross-border logistics. The mainland Chinese consumers have been used to a fast logistics experience such as the next day, the same day, and three days delivery. However, in overseas markets, POP MART needs to rely on air freight, shipping, and even European trains to deliver products around the world. Thus, on the one hand, it takes a long time, and on the other hand, the way to face a series of policy problems such as tariffs.

The third challenge is cultural differences. Currently, Bubble Mart's most successful own IP characters they are Molly, Dimoo, BOBO&COCO, and Yuki which contribute 70-80% of Bubble Mart's sales revenue. But they have shown significant differences in other overseas markets. But Southeast Asia, Japan and Korea markets will be more like cats, dogs and other small animal images, they do not like human-shaped dolls. And in the European and American markets, fairy tale elves characters will be more popular among the consumers. Therefore, POP MART needs to adapt to the local marketing strategy needs to be developed with reference to the local culture.

More than that POP MART has faced the problem of safety testing and certification in different countries in overseas markets. Each country has different testing requirements for the materials, product quality, materials, size and odor of toy products, so when entering overseas markets, POP MART has to comply with these safety testing and certification at first.

4.4 Technological Environment

4.4.1 Efficient Supply Chain

The Chinese supply chain as fast as well know, it provides more convenience for other industry to develop. Therefore, for Trendy toy industry, a comprehensive developed supply chain is most important for the companies to develop.

a) The Upstream

The upstream of China's trendy toy mystery box industry is mainly based on IP character design, 3D modeling, molding tool building, and factory production of mass production packaging.

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b) The Downstream ULALONGKORN UNIVERSITY

The downstream participants in China's trendy toy mystery box industry are consumers, including corporate consumers and individual consumers. The percentage of corporate consumers is 10%, and some companies will buy blind boxes as gifts for their clients. The number of individual consumers accounts for 90%, and blind boxes are mainly for female consumers in the Generation Z. Moreover, the downstream derivative industries of China's trendy toy mystery box industry, also including overseas purchase business and trendy toy mystery box modification business.

c) Retail Logistics

The China's economy has continued to develop at a rapid pace, and the logistics

industry, as a commercial blood vessel, it has also developed at a rapid pace.

The digitalization of the existing logistics model, in the face of multi-channel supply synergy, logistics information construction is particularly important. To realize the refinement, collaboration and visualization of warehousing and distribution management, to improve the efficiency of warehousing and logistics to support the high business growth of enterprises (Li, 2021).

The trendy toy company tends to rationalize its warehouse network and inventory layout. The evolution of regional development of offline retailing and the gradual growth of B2C business have increased the challenge for the current warehouse network. Therefore, the layout of multi-level warehouse and the improvement of warehouse function will be the key improvement direction in the future. It based on the network structure of origin and distribution and the requirement of B2B and B2C service realization (Li, 2021).

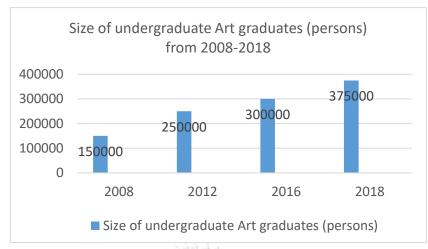
In order to enhance the whole shopping experience of customers, the logistics department of trendy toy mystery box Company has customized the exclusive easy-to-open zipper express packaging box, which solves the poor opening experience of the traditional express box and ensures that the B2C orders reach the customers' hands that gives them a quality experience.

d) The Omni-channel Model of Retail Methods

Under the omnichannel retailing mode, the relationship between people, goods and field needs to be reconstructed, from "field, goods and consumers", which is based on expansion and channel sales, to "consumers, goods and field", which is based on consumers. The foundation for future retail success will be to build a picture of the consumers, develop a customer-centric demand chain with big data management, and use efficient prediction, inventory stocking and efficient supply implementation.

4.4.2 IP Characters and Mystery Box linkage

Figure 10: The size of Art undergraduate students from 2008 to 2018



According to the research which from Wind, noticed that IP products are focused on design, which is an art talent-intensive industry. And the total number of undergraduate art graduates in China reached 370,000 in 2018, and currently tends to stabilize after rapid growth in the past 10 years, with a huge reserve of design talents.

- 1) Trendy toy companies are likely to establishing a good interaction with universities to attract top art and design university talents, it will be providing a constant reserve of talents for the continuous development and growth of the trendy toy industry.
- 2) One the other hand, companies will hold creative competitions to continue to attract fresh energy into their firms. The companies are often working with famous IP character companies such as Disney, to hold international trendy game design competition and select 10 popular works. Most of companies will sign up serval original designers and provide rich resources to support their creations and platform promotion. The creative competition offers a strong support for the company's sustainable trendy product updates.

Meanwhile, there are Two major way for trendy toys mystery box model. The first type is to produce trendy toys mystery boxes with non-famous IP characters designed by non-famous designers, and then further explore the IP value and IP operation after forming a certain popularity base. For example, after POP MART launched several co-branded models and launched cross-brand collaboration. The second method is to use famous and developed IP to produce trendy toys mystery boxes to achieve IP character's revenue and increased the influence of IP characters with the trendy toy market such as Disney and Universal.

4.4.3 POP MART's IP Characters Modeling and Designing

As an IP character design and trendy toy selling company, the most important technology is IP design and character modeling. Therefore, with the company, after receiving the IP sketch from the artist, POP MART's design team communicates with

the artist for feedback based on market research results to improve the commercial property of the product. In the following stages of 3D design, coloring, mass production, promotion and model processing, the design team and the IP character designer need to maintain closely contact and be responsible for creating and improving the IP together. They need from both artistic and technical perspectives and work together to complete product development before finally putting it into commercial production and launching.

For non-own IP characters from established IP providers, POP MART's design team is responsible for the entire process of redesigning and product development of IP characters. The main purpose of this process is to incorporate new ideas and styles into the redesign of traditional IP characters. Because the products based on traditional well-known IP characters are differentiated from the existing products in the market, and the style of the products is more uniform with the own IP characters, it helps to channel the famous IPs' popularity to the company's own IP characters.

4.4.4 POP MART's Goods Delivery System

POP MART also has a complete merchandise distribution system: after the products are manufactured, the goods are transported to two self-operated central warehouses and several outsourced warehouses, each serving only one sales channel, and the self-operated central warehouse is provided with an Enterprise Resource Planning (ERP) system, which enables automatic distribution from the warehouse. The products are delivered to each sales channel through third-party logistics. After the products are sold, the company also has a professional after-sales team responsible for returns, opinions collection and other work. POP MART's marketing team through the online platform advertising to complete the promotion of new products and promotions.

4.4.5 Technological Progress to Promote Toy Industrial Upgrading

Whether at home or overseas, consumers' tastes change very quickly. The life cycle of trendy cultural products is relatively short, but the explosion of an IP is difficult to happen overnight.

According to the report from LeadLeo, with the technological improvements, more LED technology, reality enhancement technology, hologram technology and artificial intelligence and other high technology continue to be used in the toy manufacturing industry. And it promotes toys in intelligence and interactivity and other aspects with better results, high-tech toys have become an important section to attract the attention

from consumers. At the meantime, the proportion of high-tech toys in the overall industrial structure is increasing, which will improve the competitiveness of Chinese toys in the international market.

4.5 Socio-Cultural Environment

Any company is in a certain social and cultural environment, enterprise marketing activities are bound to be influenced and regulated by the social and cultural environment in which they are placed (MASOVIC, 2018). For these reasons, companies should understand and analyze the social and cultural environment, and for developing different marketing strategies and organizing different marketing (Reo Song, 2017). activities in different cultural environments. For trendy toy mystery box, the main target group is Generation Z group who had a strong interest on fashion and amination culture and willing to pay for the derivative products.

4.5.1 Highly Educated

The parents of the Generation Z are generally educated beyond the Secondary Education level, having benefited from knowledge, and having changed their lives through knowledge, they pay great attention to the comprehensive education of their children and are willing to invest more in the education of their children. Generation Z is a more educated generation. Many dividends of the education system are also reflected in the Generation Z, among which the expansion of universities is the most prominent. According from Ministry of Education Statistics, since the first Z Generation entered colleges and universities (2013), the average gross enrollment rate of higher education in China is 42.87%, which is significantly higher than the previous level, implying an overall increase in the literacy level of the Z Generation. The increase in literacy level has strengthened individuals' demand for spiritual content, which is reflected in the stronger demand for physically immaterial consumption and higher demand for mental consumption among the Generation Z.

4.5.2 The Values

Generation Z are digital natives, the Internet has become a part of their life with birth, their lifestyle has been turned upside down, they are more independent, more concerned about the sense of life experience, but also more economical, know how to

explore the best value and service.

Anime is also an interest and group culture of the Generation Z community, and it is the preference of aesthetics and values of this generation. Under the influence of Generation Z, with the influence of anime culture on the external world, anime culture will become a new and important part of Chinese culture in the future and bring a new consumer economy.

4.5.3 Consumption View

The Generation Z pays more attention to the emotional experience, uniqueness or social capital that goods can bring when consuming. So, the consumption of "non-essential goods" increases, and the consumer behavior shows the characteristics of more entertainment. Thus, driving the development of the general entertainment industry to be faster. Which the trendy toy company have been push the developed faster under the certain demand increased.

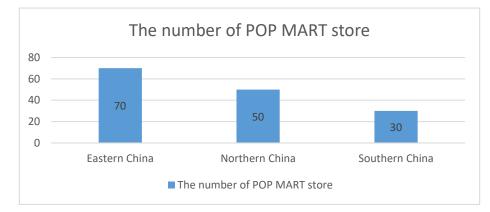
Consumers of Generation Z trendy toys show a high level of loyalty, are willing to make repetitive purchases and are willing to accept higher selling prices. Moreover, Generation Z is more willing to consume and has a more open attitude and interest in self-exploration, no longer only pursuing material needs, but also attaching more importance to emotional satisfaction. According to Maslow's hierarchy of needs theory, Generation Z has basically crossed the physiological needs and security needs and has moved into a higher level of social needs and respect needs of emotional satisfaction stage, trendy toy mystery box can meet their feeling of companionship.

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4.6 Regional Economic Environment

According from POP MART' official website that from the geographical distribution, Trendy Toys Store regional distribution are more focus on the Eastern part of China, Northern part of China and Southern part of China.

Figure 11: POP MART's Trendy Toy Store regional distribution in 2019



From offline channels to see the distribution of retail stores of POP MART during the 2019, POP MART still has a potential for expanding its stores in the Eastern China region.

Region	GDP share
Eastern China	37.98%
Northern China	11.98%
Southern China	27.66%

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Table 9: Total GDP share of China's regional administrations in 2019

The data according from 2019 the National Bureau of Statistics data shows that Eastern China shared the most percentage of total GDP share (Xiao, 2017a). Which means that it has the highest level of openness for the economy, and the number of industry clusters will also be increased. This region is sharing more capital, labor and technology which are the essential factors for company's development. Therefore, the trendy toy company such as POP MART will choose to set up the headquarter in this region.

- a) From the cost affect, the company settle more in the develop areas such as Eastern China, it has more benefits for resources sharing, it reduces the transportation cost and facility cost for company. Also, in Eastern China region, there has lost of high-level universities which is convivence for company to receive the high skill workers like artists, who are crucial for POP MART design the IP characters.
- b) Eastern China are attracting more talented people to the region, which can have a positive effect on industrialization and urbanization. On the hand, the consumption level of this region will be increased, which will bring more potential consumption for POP MART expanding of their retail.
- c) Although POP MART as the only trendy toy mystery box company listed in the stock market and still have to face other competitors in the market. A positive competition can help the region economy growth will increase the company development as well.

4.7 Comparative advantage

The traditional international trade theory believes that each country can obtain relative comparative benefits by giving full play to its comparative advantages and carrying out division of labor and trade according to the difference in production costs and the different degrees of abundance of factor endowments. At the present stage, the traditional theory of division of labor is no longer suitable for the practice and needs of international competition. First, under the condition of economic globalization, the increasing elimination of barriers to the free flow of factors across borders has made the comparative advantage of a country become a locational advantage that can be jointly used by the country and other countries. Foreign enterprises can invest and set up factories in other countries with the help of capital flow and make use of the comparative advantage of the host country, and the comparative advantage of low-cost labor in China is increasingly shared by foreign investors. Secondly, the traditional theory of comparative advantage is based on perfect competition, which only shows a potential possibility of price competition, the product is homogeneous, there is no non-price competition, competitive advantage is not only from the comparative advantage of price, but also from the economy of scale, product differences, brand and other factors. Third, in the traditional theory of comparative advantage, trade growth is driven by the advantages of natural endowments, and according to the law of diminishing marginal utility, the marginal returns from such advantages are declining.

Category	Percentage
Electric toys	40%
Intellectual toys	31%
Plastic toys	23%
Wooden toys	6%

 Table
 10: China toy companies segment market distribution

Trendy toy mystery box as the part of Plastic toy manufacturing, it shares 23% of toy markets. Guangdong province is the largest toy production and export base in China, and according to the data from the National Bureau of Statistics, it is known that Guangdong province exported \$21.509 billion in toys in 2019, accounting for 69.1% of the national share. And the number of toy manufacturing exports in 2020 increased by 7.9% year-on-year, and the average unit price rose by 6.8% due to the impact of the new epidemic. The increase in the volume of toy exports up the average price decrease is fully consistent with the law of diminishing marginal returns of comparative advantage of labor.

All these show that while Chinese traditional comparative advantages are gradually decreasing, China has stood to a higher starting point, and new comparative advantages are emerging and showing good future. The most significant of these, first, the production factor's structure upgrading, innovation factors are increasingly sufficient, especially the improvement of education, vocational training gradually popular, the overall quality of the industrial workforce to improve; undergraduate and graduate students to increase the scale, students returning to China after completing their oversea studies to start a business has become popular, the advantages of knowledge-based human resources began to emerge. Secondly, the organization and management ability of enterprises has been greatly improved, and the entrepreneurial team has gradually grown up. Third, the technology and industrial supporting ability has been considerably improved, and the success rate of innovation has increased. Fourth, the trendy toy mystery box market demand is strong, the demand level is improved, and a variety of market structures are gradually formed.

Therefore, the companies cannot stick to their original comparative advantages, they have to catch up the opportunities. Only to improve their international competitiveness, under the general rules, actively participate in the international competition for elements of comparative advantage. In order to obtain a long-term viability, with the brand to have differentiation, with the brand to avoid the diminishing marginal returns of the elements of comparative advantage. To promote brand creation and brand marketing is an obvious choice for a region to improve its international competitiveness and construct competitive advantages.



Throughout the macro analysis, it obvious to see that Chinese GDP had a stable growth even though under the COVID-19 situation. And the per capita expenditure for culture, education and entertainment in China has significant growth in recent years as well as the rural and urban resident's expenditure growth stably. These data are showing that the trendy market group are having more potential consumption power to figure out. And to compare with global trendy toy market, the Chinese trendy toy market demand increased faster than before, to fill out this situation, the Chinese toy industry start to use the advanced technology to improve the production which is benefit for trendy toy industry that have a huge demand right now. Also, from the study data Generation Z as the main target group share the largest part within the trendy toy market, which is important for POP MART to catch up their favors and attract more. Although the consumers who consume trendy toy mystery box are from Eastern China, POP MART still need to pay attention on the lower market and Southeastern China and Southern China where have more further ability for trendy toy market. POP MART are under a good chance for their development, because the trendy toys supply chain they had is the most comprehensive one in the current market. It is efficient from IP design to toy manufacturing. As a heading company in the trendy toy market, POP MART start to explore the oversea market even have to face the pandemic, which they had to face the big difference between mainland China market and oversea market, but it is a good opportunity for POP MART to develop their branding in the international market. But trendy toy export still has a significant increase in the past year, and under the cheaper toy production cost and various IP character design, POP MART still have times of growth space.



6. Recommendation

POP MART as a company which focus on selling the trendy toy mystery box, the key factor for company operating is IP characters. However, trendy toy consumption is overdependence on consumer's preference, it carry a big risk for consumer who will lose the interest on the IP characters or toys models. Generation Z as the main consumption group in the future, POP MART should focus on their unique features of the group form and meet their new demand and new culture. Moreover, a lot of video website companies are introduced a large of foreign animation products and trying use the cheaper price with rich content within the market. And this action will bring a huge impact for exciting trendy toy mystery box market. On the other hand, due to the toy industry reformation that the labor cost of toy industry has been increased in recent years, which means the cost of per mystery box will be increased. Therefore, keep the brand awareness and consumer loyalty is important for POP MART in the future development. Since the Southeastern China and Midden China's GDP growth as well where the third tier and forth tier cities are located, POP MART should pay more attention on this market. These are the future consumption power where the company can be founded. Other risk that POP MART have to face is that the in China, the protection of intellectual property rights is relatively behind. If there are problems such as pirated products or design plagiarism, it may have a negative impact on the industry. If there are problems such as pirated products or design plagiarism, it may have a negative impact on the industry. Under the COVID-19 situation, offline stores require more cost both in mainland China and oversea countries, thus improving the online retail channel is the next important stage for POP MART. If consumer can receive an online experience as same as offline service, and it will reduce a large number of offline cost and retail store labor cost. Moreover, get a strong connection with foreign designers will help the company deeper understand the oversea market and earn more credit from the oversea consumers. These actions will expect for POP MART to increase the sales in the overseas markets.

REFERENCES



- Han, B. (2020). Can POP MART succeed in selling Chinese trendy toys to foreigners? https://www.pingwest.com/a/218607
- Institute, F. I. R. (2021). Foreseeing 2021: "Panorama of China's Animation Industry in 2021" (with development status, market segments, competition pattern, etc.). https://new.qq.com/omn/20210412/20210412A0AXNZ00.html
- Li, Y. Z. W.-t. (2021). Knowledge Mapping of Migraine: a Bibliometric Analysis (2000-2019). <u>https://doi.org/10.21203/rs.3.rs-142994/v1</u>
- LIMITED, P. M. I. G. (2021). 2020 Annual Report. https://cdn.shopify.com/s/files/1/0339/7091/3412/files/ANNUAL_REPORT_2 020.pdf?v=1619439991
- Liu, S. W. X. (2020). Design and Application of an Evaluation Index System for Urban Development Quality of China's Sub-provincial Cities in the New Era. *International Journal of Sustainable Development and Planning, Vol. 15, No. 3*, 327-334. https://doi.org/https://doi.org/10.18280/ijsdp.150309
- MASOVIC, A. (2018). SOCIO-CULTURAL FACTORS AND THEIR IMPACT ON THE PERFORMANCE OF MULTINATIONAL COMPANIES. *ECOFORUM*, 7(1(14)). <u>http://www.ecoforumjournal.ro/index.php/eco/article/view/729</u>
- Reo Song, S. M. a. H. C. (2017). When Marketing Strategy Meets Culture: The Role of Culture in Product Evaluations. *Journal of the Academy of Marketing Science*. <u>https://doi.org/10.1007/s11747-017-0525-x</u>
- Sdaoke. (2021). *The policy to upgrade the textile and garment industry value chain* <u>https://www.sdaoke.com/enews_detaila47d.html?cv=1&id=2066</u>
- Unionpedia. (2021). *The capital of Shandong province in Eastern China*. <u>https://en.unionpedia.org/i/Jinan</u>
- Wang, L. (2020). Development of China's Logistics Industry During 40 Years of Reform and Opening-Up: Achievements, Thrusts, and Outlook. Springer, Singapore. <u>https://doi.org/https://doi.org/10.1007/978-981-15-6945-6_1</u>
- Xiao, L. (2017a). Co-ordination of Supply Side Structural Reform and Demand Side Management. Springer, Singapore. https://doi.org/https://doi.org/10.1007/978-981-10-4639-1_8
- Xiao, L. (2017b). New Supply Side Economics: The Structural Reform on Supply Side and Sustainable Growth (T. Y. Xiao Weiqing, Du Lei and Li Yan, Trans.). Springer, Singapore. <u>https://doi.org/</u> 10.1007/978-981-10-4639-1
- Xu, Y. (2020). CHINA'S K12 ONLINE EDUCATION RESEARCH UNDER THE EPIDEMIC : Satisfaction Analysis on K12 Distance Learning University of Turku]. <u>https://www.utupub.fi/handle/10024/150593</u>

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