

NetEase (9999 HK)

Top game developer in the world, High growth potential in Youdao K-12 sector

Hong Kong | TMT sector | Company Initiation

16 Nov 2020

Investment Summary

NetEase is a leading Internet company in China

NetEase is a leading internet company in China. It was established in 1997 and started as a typical Chinese internet company providing traditional internet services, such as media and email services. Since 2001, the company has expanded its business to the online game sector. According to App Annie data, the company is now the world's second largest mobile game company based on the user expenditures of iOS and Google Play in 2019. In 2006, the company launched an intelligent learning platform Youdao, which was spun-off and listed on the New York Stock Exchange in 2019. In 2013, the company launched a music streaming platform NetEase Cloud Music Platform. In 2016, the company launched its e-commerce platform Yanxuan. The company's business can be divided into three major sectors, online games, Youdao, and other innovative businesses such as NetEase Cloud Music and Yanxuan. The company was listed on the Nasdaq Stock Exchange in 2000, and on the Hong Kong Stock Exchange in 2020.

The differences in targeting game genres between NetEase and Tencent

The company's focus of game genre is significantly different to Tencent. Tencent's main games Honor of Kings (王者荣耀) and Game for Peace (和平精英) are both moderate games with social characteristics in them. These games are user friendly to new joiners and suitable for both men and women in nature. Therefore, these games have a very high MAU. In addition, these games are backed by the 2 largest social media platform in China, Wechat and QQ. Hence, these 2 games basically monopolize the light-moderate mobile game markets in China, with very few similar games on the market. On the contrary, NetEase has been deeply focused in R&D of core game genres such as MMORPG genres since its inception. However, due to the high average game time and high spending nature of core games, which in game performance and rankings are hugely affected by the game time and money spent by users, the MAU of core games are significantly lower. But at the same time, core games have characteristics of higher ARPU and longer life cycles. Taking into account Tencent's absolute innate advantages in light and moderate games, the company avoids direct competition with Tencent and focuses on core games is a wise choice.

The K-12 online courses of Youdao is experiencing huge growth

In 2018, the company began to focus on K-12 business and launched several products for K-12 students, including Youdao Mathematics and other learning tool products that use AI technology. The company also provides a series of K-12 online premium courses (including K-12 online after-school tuition classes and K-12 online programming classes). In terms of the K-12 business model, Youdao still insists on learning products (including APP and other tools) as the main channel for traffics, while online courses are the company's main channel for monetization. Youdao's number of K-12 pay users in 2019 was 359 thousand, accounting for 43% of the total number of pay users for its premium courses. This proportion increased by about 24% yoy comparing to 2018. It can be seen that the company's K-12 business layout has a significant effect, prompting it to fully capture the high demand and growth potential of China K-12 online education.

Valuation

We forecast the company's 2020/2021/2022 Non-GAAP EPS to be RMB 5.06/5.75/6.53. We have adopted SOTP to value the company. we value NetEase at HKD 596.9 billion, with target price at HKD 172.8, with respective 2020/2021/2022 Non-GAAP PE at 29.85x/26.31x/23.14x. We initiate with a BUY rating.

Buy (Initiation)

CMP HKD 139.40

(Closing price as of 12 Nov)

TARGET HKD 172.80 (+24%)

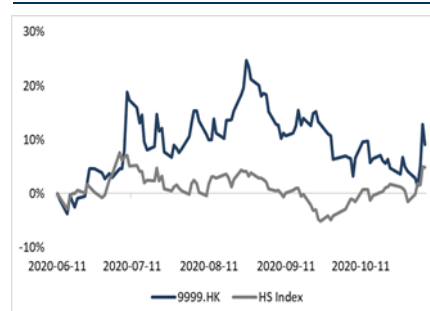
COMPANY DATA

O/S SHARES (MN) :	3,455
MARKET CAP (HKD MN) :	483,255
52 - WK HI/LO (HKD):	167.0/125.0

SHARE HOLDING PATTERN, %

Ding Lei	44.70%
Orbis Investment Management	5.10%

PRICE VS. HSI



Source: Wind, Phillip Securities

KEY FINANCIALS

CNY mn	FY19	FY20E	FY21E	FY22E
Net Sales	59,241	71,588	83,375	96,643
Net income	21,238	14,518	16,872	19,592
EPS	6.59	4.20	4.88	5.67
P/E, x	18.6	29.2	25.1	21.6
Non-GAAP NI	15,663	17,499	19,853	22,573
Non-GAAP EPS	4.86	5.06	5.75	6.53
Adj. P/E, x	25.2	24.2	21.3	18.8
BVPS	19.42	27.56	31.27	35.58
P/BV, x	6.4	4.5	3.9	3.4
ROE, Adj (%)	25.0	18.4	18.4	18.4
ROA, Adj (%)	14.0	11.9	12.3	12.6

Market closing price as of 12th Nov

Source: Company Data, Phillip Securities Est.

Research Analyst

Kevin Chiu (+ 852 2277 6514)

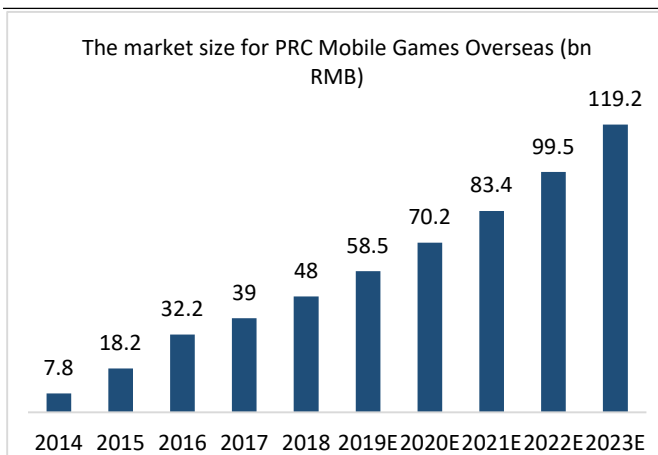
kevinchiu@phillip.com.hk

Industry Review and Forecast

The market for PRC Mobile Games Overseas

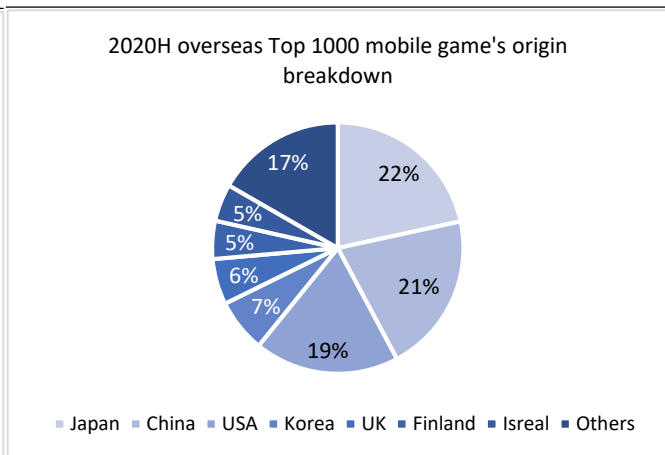
In recent years, many mobile game companies have been focusing on their overseas market business, mainly because the mobile game markets in many overseas regions (especially Southeast Asia) are still in the early stage of development and has great growth potential. In contrast, the Chinese mobile game market is already in the mature stage and its growth has significantly slowed down. Secondly, the Chinese game market is indeed hugely affected by policies. Relevant national departments issued a number of game supervision measures (including tightening supervision on underage gamers and restricted their game time) in 2018-2019, and suspended the pre-approval for games in 2018. Although the current pre-approval procedure has resumed, nonetheless there are still significant policy risks in China's mobile game market. On the contrary, games in majority of overseas markets are only supervised through the "game classification system", where games are classified by the age of suitable players. It can be seen that the regulatory intensity of the overseas game market is obviously lower than that of the Chinese market. As a result, expanding overseas markets will help Chinese mobile game industry participants to reduce this policy risk. According to Frost & Sullivan, the China's overseas mobile game market recorded a significant growth at a CAGR of 57.5% from 2014 to 2018, and is expected to grow at a CAGR of 20.0% from 2018 to 2023. The Chinese mobile games have already achieved good results in overseas market. According to the statistics of the Overseas Research Institute (海外研究院), in the US Google Play Store Top 100 free list and Top 100 best-selling list, apps from China have occupied 15 and 20 places respectively. Further, there are 30 Chinese mobile games in the Top 100 best-selling Korean mobile games in 2019. Further, according to App Annie data, the market share of Chinese mobile games in overseas markets was up by 2.9ppt yoy in 1H20, and reached 21.2%, which is only slightly behind Japan with 21.5%.

Figure 1: The market size for PRC Mobile Games Overseas



Source: Frost and Sullivan, PSHK

Figure 2: 2020H1 overseas Top 1000 mobile games' origin



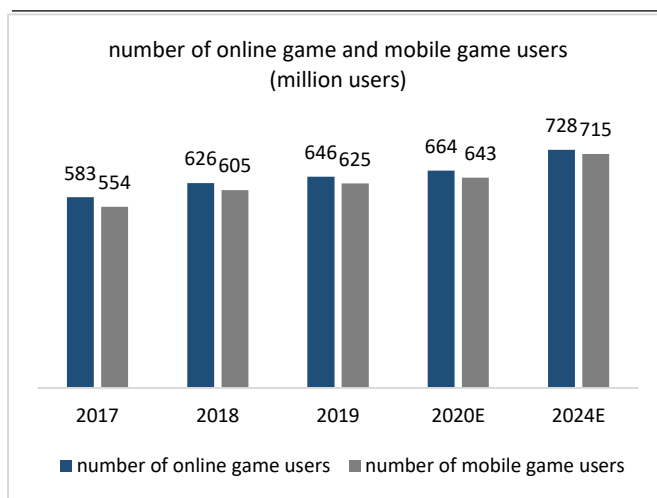
Source: App Annie, PSHK

The Chinese game advertisement market

In recent years, the growth of users in the Chinese game market has gradually been slow. According to Frost & Sullivan, the CAGR of Chinese gamers/mobile game players from 2019 to 2024 is expected to be 2.4%/2.7%. In 1H20, even under the impact of COVID and quarantine, the growth of users remained slow. According to the "China Game Industry Report for January-June 2020" 《2020 年度 1-6 月中國遊戲產業報告》, the number of gamers in China in 1H20 was 557 million, a yoy increase of only 1.97%. As the growth of number of Chinese gamers begins to slow down, the difficulty of acquiring customers for game companies has increased. On the other hand,

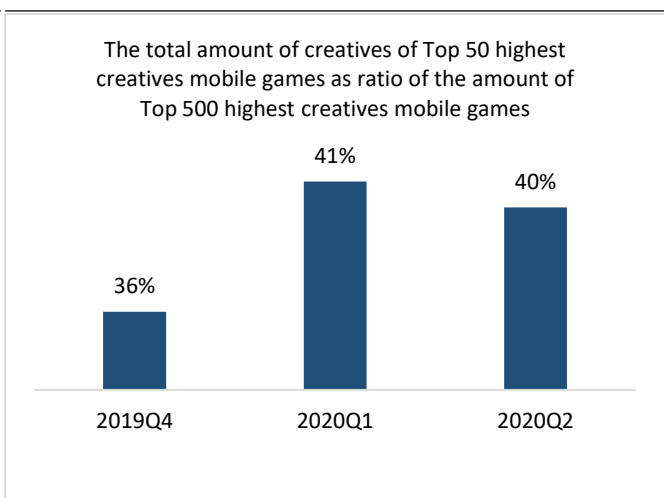
according to Reyun data, the total amount of creatives of the Chinese TOP 50 highest creatives mobile games have accounted for roughly 41%/40% of the total amount of creatives of the Chinese TOP 500 highest creatives mobile game in 20Q1/20Q2, up by 5ppt/4ppt comparing to the 36% in 19Q4. The increase in this proportion means that the Chinese game advertisement market is gradually dominated by the market leaders. According to DataEye-ADX, the Game 《亂世王者》 by Tencent ranked 13th on the ranking of highest creatives Chinese game. This is relatively surprising, since the games developed by Tencent don't usually appear in the Chinese game advertisement markets, as they are usually promoted and advertised through the diversified advertisement channels of Tencent. This served as a clear evidence that the market leaders have begun to enter the Chinese game advertisement market. The combination of the increasing customer acquisition difficulties as well as the fact that the market leaders begin to enter the Chinese game advertisement market have driven the cost of game advertisement upward significantly.

Figure 3: The number of online game/ mobile game users



Source: Frost and Sullivan, PSHK

Figure 4: The total amount of creatives ratio between Top 50 and 500

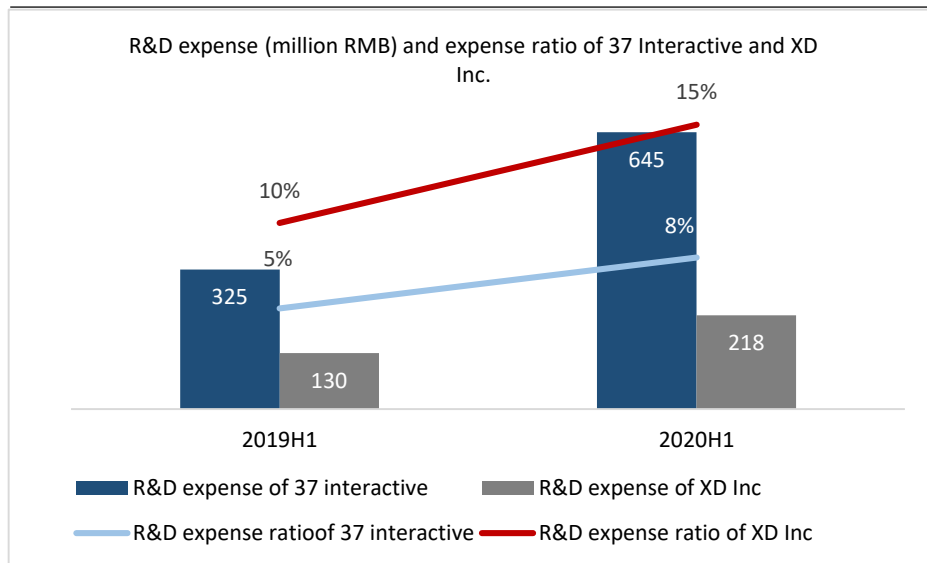


Source: Reyun Data, PSHK

Developing exquisite games by enhancing R&D capabilities is the general trend in the sector

Game development capabilities and game quality have become particularly important especially in the background of high game advertisement cost. The increase in game advertisement cost will squeeze the living space of non-exquisite games on the one hand, and on the other hand, it has shifted the attention of mobile game developers onto the quality of games in order to acquire customers and retain them, rather than spending significant amount on advertisement. In addition, as players consume more and more rationally, whether mobile game companies can tap the value of its existing users by providing high-quality games will become the key. Further, pre-approval of games by Chinese Government are more stringent than ever. This has further pushed game companies to refine their games in order to increase the games' life cycle to cope with the increasingly stringent pre-approvals. The above reasons have promoted high quality and refinement of the mobile game industry and we believe that that increasing their R&D capabilities will be the only way for mobile game companies to survive. Take 37 Interactive Entertainment (A-shares) and XD Inc (HK-listed) as example, the R&D expense of 37 interactive and XD in 1H20 were RMB 645/218 million, up by 99%/68%. The corresponding R&D expense ratio were also up by 2.7ppt/5.5ppt.

Figure 5: R&D expense and expense ratio of 37 Interactive and XD Inc.

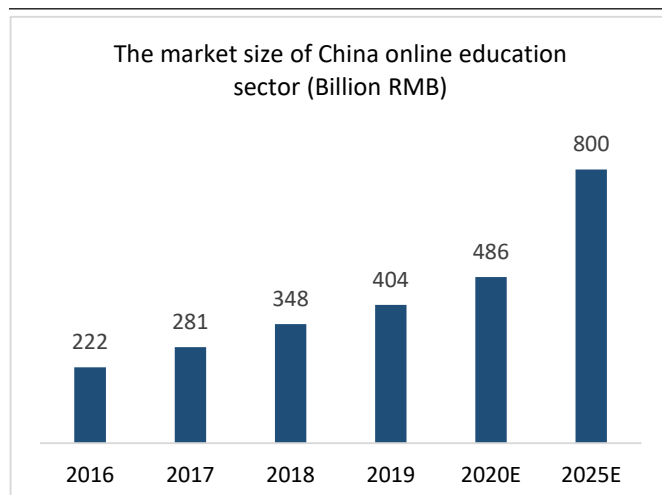


Source: Wind, PSHK

The epidemic has popularized online education in China

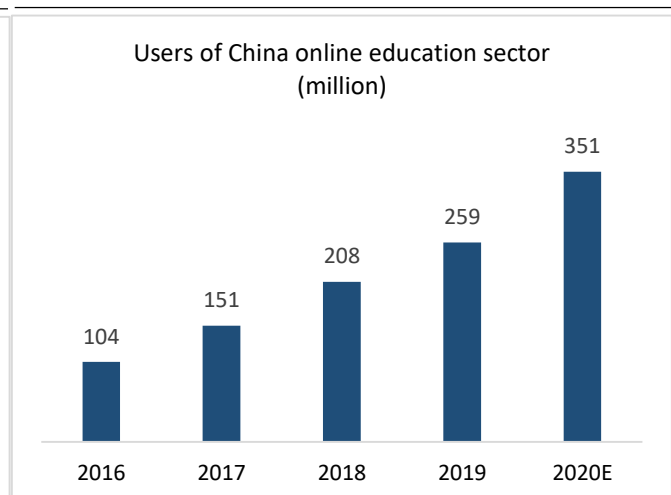
China's online education market has maintained steady growth in the past. According to iMedia, the size of China's online education market has increased from RMB 221.8 billion in 2016 to RMB 404.1 billion in 2019, with a CAGR of 22.1% during the period. Affected by the epidemic, the growth of China's online education market will accelerate, and it is expected that the market size will reach RMB 485.8 billion in 2020, with a yoy increase of 20.2%. Further, the industry is expected to benefit from the upgrading of technologies such as artificial intelligence and big data in the future, and its market size is expected to grow steadily. It is expected to reach approximately RMB 800 billion in 2025. In addition, affected by the epidemic and the policy of "suspending school without suspending learning", traditional colleges and universities have also adopted online education for teaching in China. This has greatly increased the scale of online education users and the penetration rate of online education, especially for K-12 teaching. According to iMedia, the number of online education users in China is expected to reach 351 million in 2020, with an increase of 36% yoy.

Figure 6: The market size of China online education sector



Source: iMedia, PSHK

Figure 7: The users of China online education sector



Source: iMedia, PSHK

The K-12 online education market has the highest growth potential

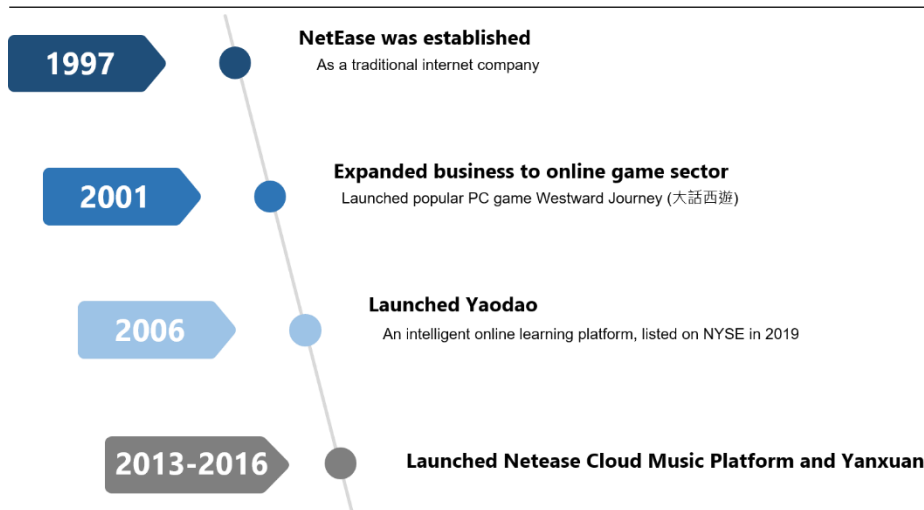
At present, the online education market can be divided into 5 major segments, namely early childhood education, K-12 education, higher education, quality education and vocational training. According to iMedia, compared with other segments, the Chinese K-12 online education market is in greater demand with high online penetration rate. The main reasons are 1) The society now pays more attention to children's education 2) the increase in disposable income of Chinese families is noticeable 3) the increase in K-12 students' familiarity with the internet and 4) the pressure to enter primary and secondary schools in China has gradually increased. On the other hand, according to data from the Chinese Academy of Sciences (中國科學院), affected by the epidemic and the policy of "suspending school without suspending learning", the penetration rate of K-12 online education in China reached its peak level in March 2020, about 85%. With the pandemic gradually being controlled and the resumption of Chinese K-12 schools, the penetration rate will drop significantly, but most K-12 students have developed their habits of using online education platforms during the epidemic. Hence, the online penetration of K-12 is expected to maintain high level even after the pandemic. According to data from the Chinese Academy of Sciences (中國科學院), the K-12 online penetration rate is expected to reach 35% in 2020, and it is expected to reach 55% in 2022. Further, the market share of Chinese K-12 online education is currently mainly concentrated in Tier 1-2 cities, with total market share of tier 3,4 and 5 cities being 23% (according to the Chinese Academy of Sciences), but as the education consumption power and awareness of online education of tier 3,4 and 5 cities gradually improved, the K-12 online education market in tier 3,4 and 5 cities is expected to realize a huge growth. Based on the above reasons, we believe that the K-12 online education market has great potential for future growth.

Company Overview and its Competitive Advantages

NetEase is a leading internet company in China

NetEase is a leading internet company in China. It was established in 1997 and started as a typical Chinese internet company providing traditional internet services, such as media and email services. Since 2001, the company has expanded its business to the online game sector. According to App Annie data, the company is now the world's second largest mobile game company based on the user expenditures of iOS and Google Play in 2019. In 2006, the company launched an intelligent learning platform Youdao, which was spun-off and listed on the New York Stock Exchange in 2019. In 2013, the company launched a music streaming platform NetEase Cloud Music Platform. In 2016, the company launched its e-commerce platform Yanxuan. The company's business can be divided into three major sectors, online games, Youdao, and other innovative businesses such as NetEase Cloud Music and Yanxuan. The company was listed on the Nasdaq Stock Exchange in 2000, and on the Hong Kong Stock Exchange in 2020.

Figure 8: Milestone of NetEase



Source: Company, PSHK

Figure 9: Company's product mix



Source: Company

NetEase Online Game business

The company is the world's second largest mobile game company

The company started its game business in 2001 and focused on the R&D of PC games. In December 2001, it launched its first MMORPG PC game Westward Journey (大話西遊), and launched Westward Journey 2 (大話西遊 2) in August 2002. In January 2004, it launched its second original MMORPG PC game Fantasy Westward Journey (夢幻西遊). Westward Journey and Fantasy Westward Journey were upgraded to New Westward Journey Online II (大話西遊 2 經典版) and (夢幻西遊電腦版) in 2013. Up to now, these two games are still loved by players and still contribute significant revenue for the company. In 2013, in order to capture the high growth of the mobile game market, the company began to expand its game business to mobile game sector, and launched its first mobile game Mobile Version of Fantasy Westward Journey II (夢幻西遊 2 口袋版). The current business model of the company's game business is "mobile games as the mainstay, with PC games as a supplement". In 2019, the company's revenue of mobile games accounted for 71% of total game revenue. As of the end of 2019, the company has released more than 100 mobile games (self-developed + licensed games), with a variety of game genres, including MMORPG, CCG (collectible card game), first-person shooter games, Battle Arena, SLG games, etc. Among all games, the self-developed and "PC to mobile" games Fantasy Westward Journey mobile game (夢幻西遊手遊) and Westward Journey Online mobile game (大話西遊手遊) are most populated. Lastly, the revenue from licensed games only accounted a small portion of the company's total game revenue, 10.8%/9.5%/9.6% respectively in 2017/2018/2019.

Figure 10: the company's core self-developed games

	Game	Game Genre	Launched date		Game	Game Genre	Launched date Upgrade date
Mobile	Mobile Version of Fantasy Westward Journey II (夢幻西遊 2 口袋版)	Turn-based MMORPG	2013/7	PC	New Westward Journey Online II (a comprehensive upgrade of Westward Journey Online II) (大話西遊 2 經典版)	2D MMORPG, classical Chinese setting	2002/8 2013/9
	Fantasy Westward Journey mobile game (夢幻西遊手遊)	Turn-based MMORPG	2015/3		Fantasy Westward Journey Online (previously known as Fantasy Westward Journey II) (夢幻西遊電腦版)	2D MMORPG, classical Chinese setting	2004/1 2013/7
	Westward Journey Online mobile game (大話西遊手遊)	Turn-based MMORPG	2015/9		New Ghost (a new version of Ghost II) (新倩女幽魂)	2.5D MMORPG, classical Chinese setting	2012/4 2015/9
	Invincible (率土之濱)	SLG	2015/10		Justice (逆水寒)	3D MMORPG, classical Chinese setting	2018/6
	Onmyoji (陰陽師)	CCG and RPG	2016/9				
	Knives Out (荒野行動)	Battle Arena	2017/11				
	Identity V (第五人格)	Battle Arena	2018/4				
	Fantasy Westward Journey 3D (夢幻西遊三維版)	3D MMORPG	2019/12				

Source: Company, PSHK

The company's major self-developed games all have high gross billings after being launched. According to App Annie, the company has 4 games that ranked top 10 in China in terms of IOS revenue generated in September 2020. These 4 games are Fantasy Westward Journey mobile game (夢幻西遊手遊), Westward Journey Online mobile game (大話西遊手遊), Invincible (率土之濱) and Onmyoji (陰陽師).

Figure 10: Top 10 IOS revenue games in China Sep 2020

#	收入排行	公司
1	Honour of Kings (王者荣耀)	Tencent (腾讯)
2	Game For Peace (和平精英)	Tencent (腾讯)
3	Sangokushi Strategy (三国志 战略版)	Alibaba Group (阿里巴巴集团)
4	Fantasy Westward Journey (梦幻西游)	NetEase (网易) 37games (三七互娱)
5	All Within The Boundaries (率土之滨)	NetEase (网易) VNG Entermate GAME Dreamer (晶琦科技)
6	Onmyoji (阴阳师)	NetEase (网易) ZQGame (中青宝) Mamba Interactive (曼巴互动)
7	Three Kingdoms Fantasy Land (三国志幻想大陆)	Alibaba Group (阿里巴巴集团)
8	Westward Journey Online (大话西游)	NetEase (网易) 37games (三七互娱)

Source: APP Annie, PSHK

Fantasy Westward Journey mobile (梦幻西游) is the company's first "phenomenon-level" mobile game. It was launched on March 15, 2015. It reached the top of the IOS free ranking within 2 hours of its launch, and reached the top of the IOS best-selling ranking after 11 hours of launch. Since March 28, it has ranked 1st on 16 IOS ranking, including iPhone action game bestselling ranking, iPad total bestselling ranking, iPad game bestselling ranking and etc. Since then, it has dominated the IOS bestselling ranking for a long time. Up to now, the game has remained stable in the China Top 10 IOS game bestselling ranking.

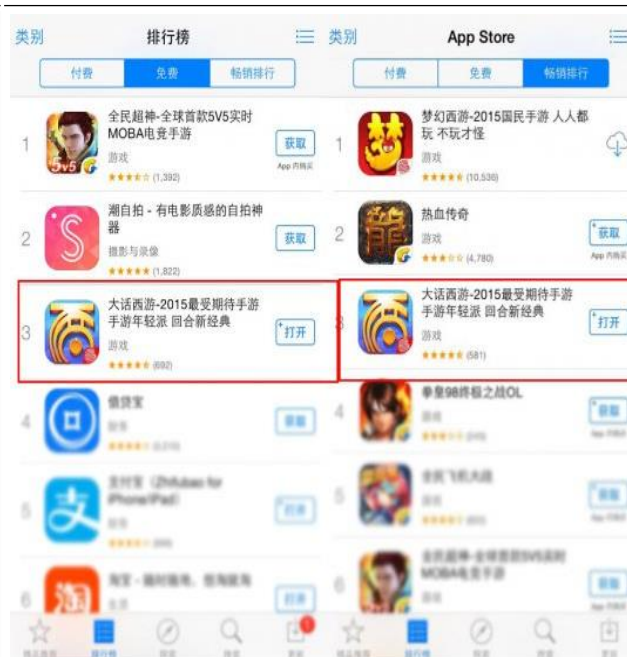
Westward Journey Online mobile (大话西游手游) is the company's second "phenomenal" mobile game. It is a turn-based MMORPG mobile game based on the PC game New Westward Journey Online II (大话西游 PC). It was launched on September 10, 2015. Less than a day after it was launched, it ranked third on the China IOS bestselling ranking and free ranking. Up to now, the game has maintained on the Top 20 best-selling IOS game ranking in China.

Figure 12: Fantasy Westward Journey mobile on top of 16 IOS rankings



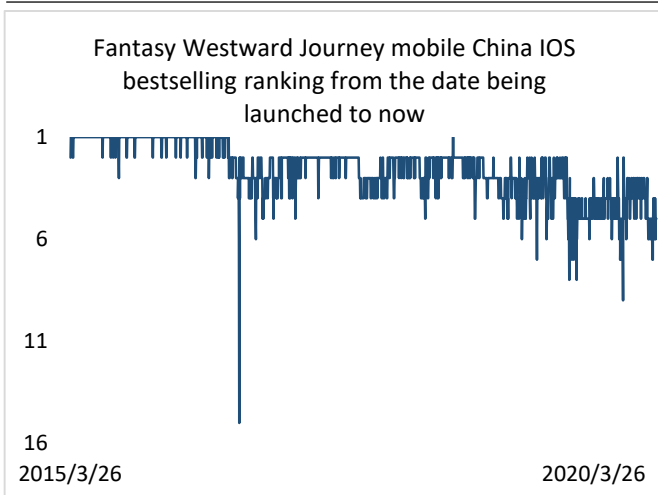
Source: Youxituoluo.com

Figure 13: Westward Journey Online mobile China IOS ranking on 1st day of launch



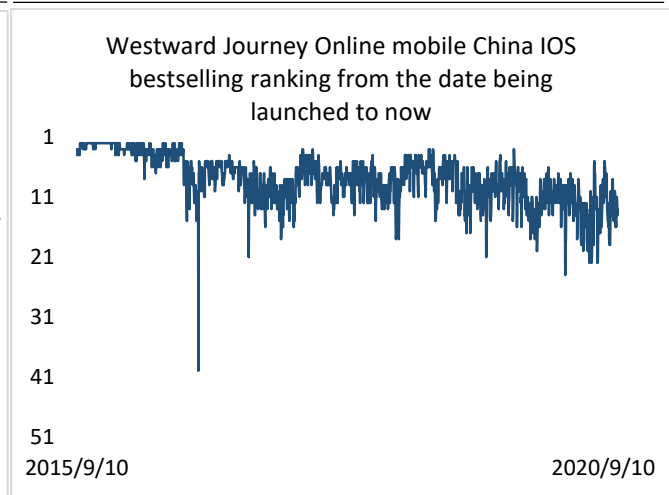
Source: App Store

Figure 14: Fantasy Westward Journey mobile China IOS bestselling ranking from the date being launched to now



Source: Qimai data, PSHK
As of 2020/ 10/31

Figure 15: Westward Journey Online mobile China IOS bestselling ranking from the date being launched to now



Source: Qimai data, PSHK
As of 2020/ 10/31

Invincible (率土之濱) is a SLG game with the theme of the Three Kingdoms. It was launched in October 2015. At that time, the China SLG market was not as popular as now. The company can be regarded as one of the first game company to open up the China SLG market. The initial ranking of the game was not as high as other hit games. The game only made it onto the Top 40 best-selling IOS games ranking two months after it was launched. However, the game has fully demonstrated the characteristics of long life cycle and stable gross billing of SLG games, with a very stable and eye catching performance even 5 years after it was launched. Its China IOS bestselling ranking went from Top 50 in the 1st year to Top 35 in the 2nd year, and to Top 25 in the 3rd year. Up to now, it is stable at Top 20 and sometimes even break into the Top 10s.

Onmyoji (陰陽師) is an RPG+CCG mobile game. It was launched on the IOS platform on September 2, 2016. On September 9 of the same year, it was launched on all platforms. It topped the IOS best-selling ranking shortly after its launched, and in October it even dominated the list for two weeks.

Figure 16: Invincible China IOS bestselling ranking in 2020



Source: Qimai data, PSHK
As of 2020/ 10/31

Figure 17: Onmyoji China IOS bestselling ranking for the first 2 months after its launch



Source: Qimai data, PSHK

The company's game reserve

According to the company's official website, the company currently has dozens of games in reserve, with a diverse game genres and playstyles. The game reserve includes mobile games derived from famous IPs such as "Harry Potter", "POKEMON", "Yu-Gi-Oh".

Figure 18: The company's core game reserve

Game	Game Genre	TapTap Score	TapTap Reservation
Harry Potter: Magic Awakened	策略、卡牌	6.2	490,823
Pokémon Quest	RPG、收集、放置	6.4	160,310
Yu-Gi-Oh! DUEL LINKS	卡牌	7.2	268,920
Diablo Immortal	ARPG	7.2	1,137,747
Chen Qingling	古風、RPG	3.9	36,692
Codename "MOON"	二次元、RPG	7.9	48,853

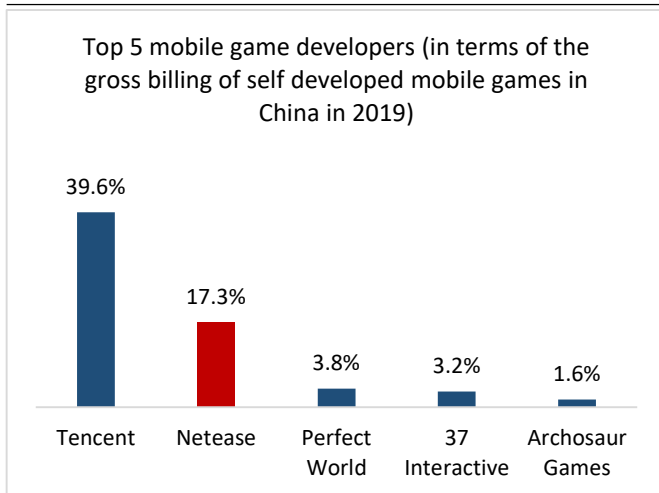
Source: Company, TapTap, PSHK
As of 2020/11/2

The company is an obvious leader in developing MMORPG games

Majority of the company's core games are MMORPG games, such as Westward Journey Online mobile (大話西遊手遊) and Fantasy Westward Journey mobile (夢幻西遊). According to Frost and Sullivan, the company is the 2nd largest Chinese mobile game developer in China in terms of total gross billings from self-developed games in mainland China in 2019, with market share of 17.3%. However, in terms of the total gross billings from self-developed MMORPGs in mainland China in 2019, the company actually ranks 1st in the country, with market share of 33.0%. According to Frost and Sullivan, MMORPG games has the highest market share in China among all other game genres and also has the highest growth potential in the future. The expected CAGR from 2019-2024 is 19.7%, way higher than the 11.7% CAGR of the average in the mobile game industry in the same period. Further, MMORPG games also has higher-than-average life cycles, highest ARPU and highest Pay user conversion rate comparing to other mobile game genres. The company is expected to become the main beneficiaries of the high future growth in MMORPG mobile game sector because of the company's forward looking and deep cultivation in the field of MMORPG games.

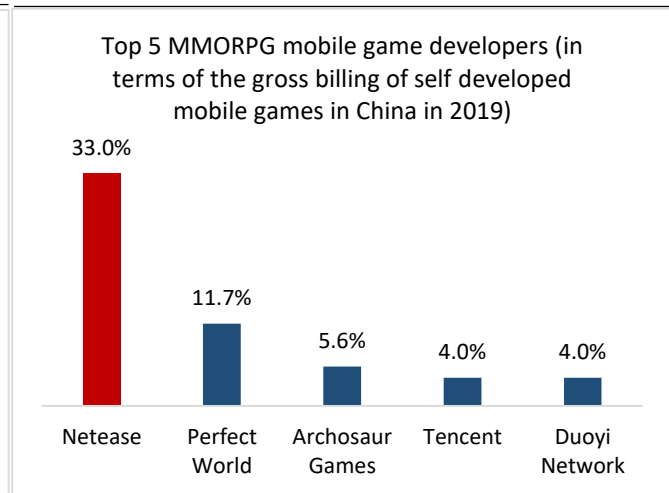
The company's focus of game genre is significantly different to Tencent. Tencent's main games Honor of Kings (王者榮耀) and Game for Peace (和平精英) are both moderate games with social characteristics in them. These games are user friendly to new joiners and suitable for both men and women in nature. Therefore, these games have a very high MAU. In addition, these games are backed by the 2 largest social media platform in China, Wechat and QQ. Hence, these 2 games basically monopolize the light-moderate mobile game markets in China, with very few similar games on the market. On the contrary, NetEase has been deeply focused in R&D of core game genres such as MMORPG genres since its inception. However, due to the high average game time and high spending nature of core games, which in game performance and rankings are hugely affected by the game time and money spent by users, the MAU of core games are significantly lower. But at the same time, core games have characteristics of higher ARPU and longer life cycles. Taking into account Tencent's absolute innate advantages in light and moderate games, the company avoids direct competition with Tencent and focuses on core games is a wise choice.

Figure 19: Top 5 mobile game developers in China



Source: Frost and Sullivan, PSHK

Figure 20: Top 5 MMORPG mobile game developers in China



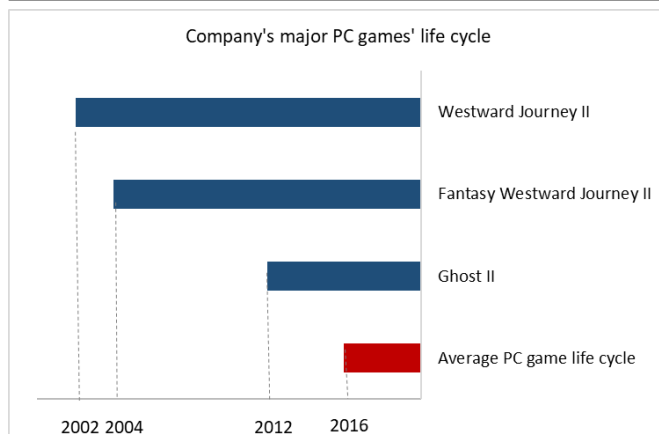
Source: Frost and Sullivan, PSHK

The strong game R&D and operation capabilities

As of December 31, 2019, the company had more than 10,000 in-house programmers, network engineers and graphic designers dedicated to its R&D activities, accounting for approximately half of its total employee headcount. Further, the company has two proprietary game engines, NeoX and Messiah. The company's proprietary game engines bring greater flexibility and autonomy to its R&D team, allowing the company to successfully complete the "PC to mobile" transformation. The company's self-developed game revenue accounted for the vast majority of its total game revenue. In 2019, the self-developed game revenue accounted for approximately 90% of total game revenue. The company's strong R&D capabilities have prompted the company to continuously develop hit-games. From Fantasy Westward Journey (梦幻西游手遊) and Westward Journey Online (大话西遊手遊) in 2015 to Onmyoji (陰陽師) and Knives out (荒野行動) launched in 2016/2017. Furthermore, the company is currently co-developing Diablo Immortal™ (暗黑破壞神：不朽) with Blizzard, an MMO action-RPG and a milestone in Blizzard's foray into mobile games with its iconic Diablo franchise. The company has also further enhanced its global R&D capabilities by launching a video game studio in Canada in 2019.

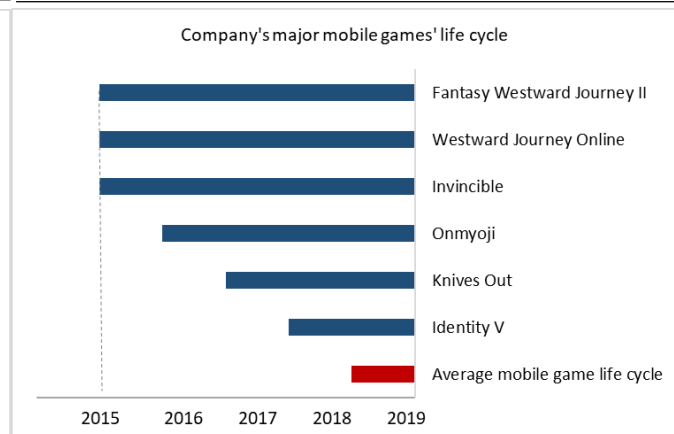
On the other hand, the company has always paid great attention to the product life cycle and scalability. According to Tencent Game Academy, the average life cycle of a PC game is 3-5 years, but the company's PC games Westward Journey (大话西遊) and Fantasy Westward Journey (梦幻西游) were launched in 2002/2004 respectively. So far, these two games have been operating stably for 18/16 years, which is far higher than the average of a PC game. The long life cycles were mainly due to the company's constant operation and maintenance of the game. Both of these games had launched major upgrades in 2013, prompting gamers to maintain freshness to the game, hence reducing the decline in ARPU. As for mobile games, according to Frost & Sullivan, the average life cycle of Chinese mobile games is 3-12 months, but the company's core mobile games have all operated for 4-5 years, while still maintain stably on the China Top 10 mobile games ranking in terms of revenue generated.

Figure 21: Company's major PC games' life cycle



Source: Tencent Games Academy, company, PSHK

Figure 22: Company's major mobile games' life cycle

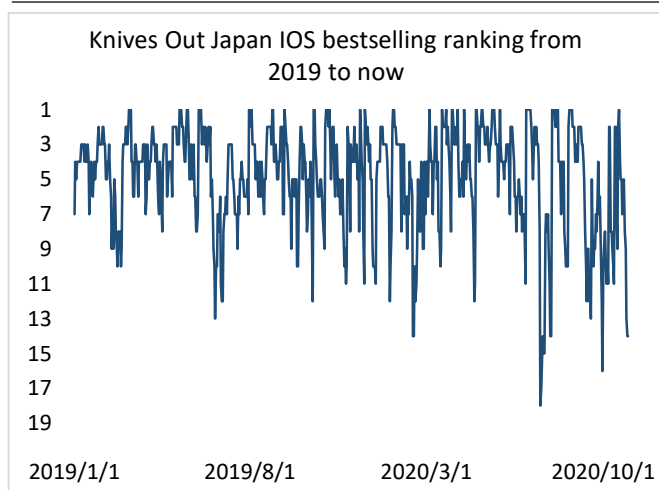


Source: Frost and Sullivan, company, PSHK

The global influence of the company's games

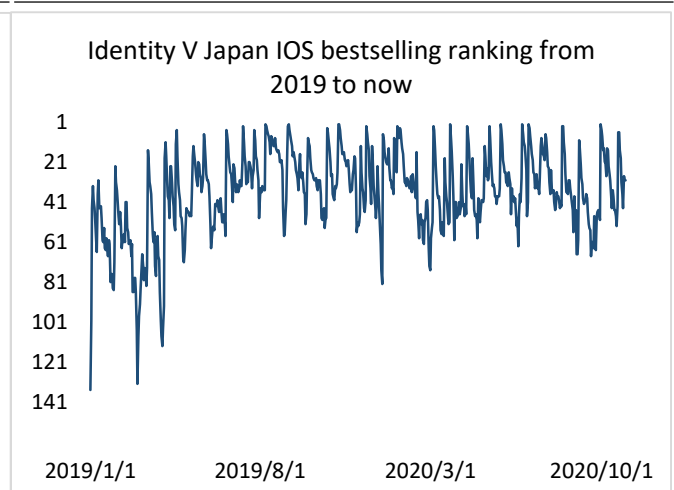
The company has been actively expanding globally in recent years. Since 2015, the company has launched more than 50 mobile games in overseas markets. With the huge influence of the company's IP and localized operations/purchases/marketing strategies, many games have achieved outstanding performance in overseas markets (including the Japanese market, which can be regarded as the most difficult market to enter). 1) Knives Out (荒野行動) was launched in the Japanese market in 2017, and it has been loved by Japanese players, and has repeatedly topped the IOS bestselling ranking in Japan. In 2020 (3 years after the game was launched), the game remained stable in the Top 20 of Japan's IOS best-selling ranking. 2) Identity V (第五人格) was launched in the Japanese market in 2018, and in September 2019 it topped the Japanese IOS bestselling ranking. 3) Marvel Super War (漫威超級戰爭), which was launched in various Southeast Asian markets at the end of 2019, also topped the iOS download ranking in various regions. At the end of 2019, the company's overseas game revenue accounted for 11% of total game revenue. We expect the company to launch more games in overseas regions in the future, including blockbuster games such as Diablo: Immortal (暗黑破壞神: 不朽) developed in cooperation with Activision Blizzard and self-developed mobile game Harry Potter: Magic Awakens (哈利波特: 魔幻覺醒) and etc. At present, the company's overseas game revenue accounts for a relatively low proportion, and there is a lot of room for growth in the future.

Figure 23: Knives Out Japan IOS bestselling ranking from 2019 to now



Source: Qimai data, PSHK
As of 2020/ 10/31

Figure 24: Identity V Japan IOS bestselling ranking from 2019 to now



Source: Qimai data, PSHK
As of 2020/ 10/31

The company's diverse IP monetization channel

The company has a number of original IPs, including Western Journey (大話西遊), Fantasy Westward Journey (夢幻西遊), Onmyoji (陰陽師) and so on. The company has combined its original IP with games, animation, film and television, etc. to create a complete IP ecological chain, which helps the company to monetize its IPs in a very diverse channels. Taking Onmyoji as an example, the company has created 3 games based on the IP of Onmyoji (a Moba game, a CCG game and a SLG game), a movie, two musicals, multiple animes and even launched a café with the theme of Onmyoji. Different entertainment content based on the same IP can not only effectively realize multi-channel monetization for the IP, but also greatly increase the influence of the IP, thereby increasing the popularity of the company's IP games, which is the company's main business.

Figure 25: The Onmyoji IP based movie



Source: Google

Figure 26: advertisement of the café with Onmyoji theme



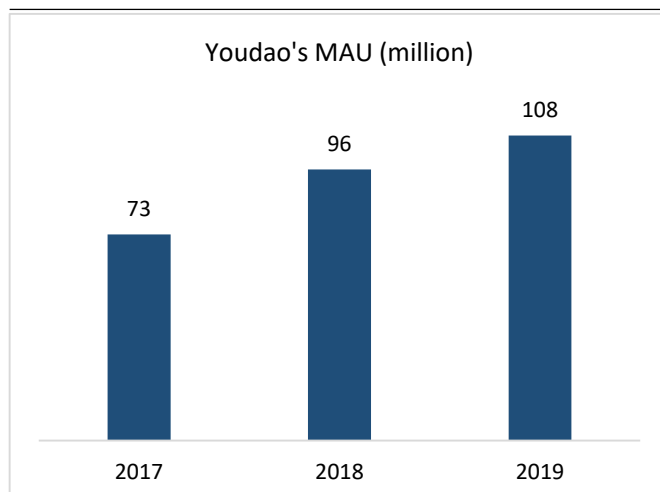
Source: Company

Youdao Business

The two segments of Youdao are learning services and product businesses and online marketing services

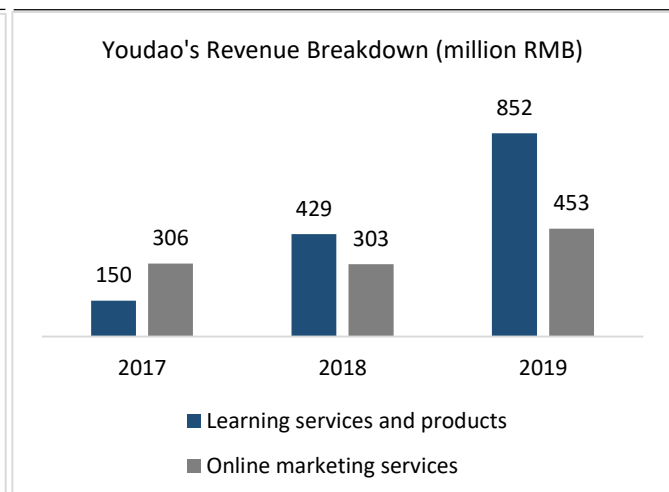
Youdao was established in 2006 and launched its flagship product Youdao Dictionary in 2007. Up to now, Youdao Dictionary is still one of the language apps with the most active users in China. Youdao Dictionary has attracted a huge user base for the company. With its strong brand, the company has subsequently launched other learning services, including online courses and interactive learning programs, to meet the lifelong learning needs of preschool, primary and secondary school, college students and adult users. In addition to providing learning services and products, Youdao also provides different forms of advertising services (online marketing services). Therefore, the company's two major sources of income are learning services and product businesses and online marketing services. The 2017/2018/2019 learning service and product business revenue accounted for 32%/59%/65% of the total revenue of Youdao, respectively. Youdao was listed on the Nasdaq Stock Exchange in October 2019. Youdao's global average MAU in 2019 was approximately 108 million people, and it has achieved success in China and many overseas markets.

Figure 27: Youdao's MAU



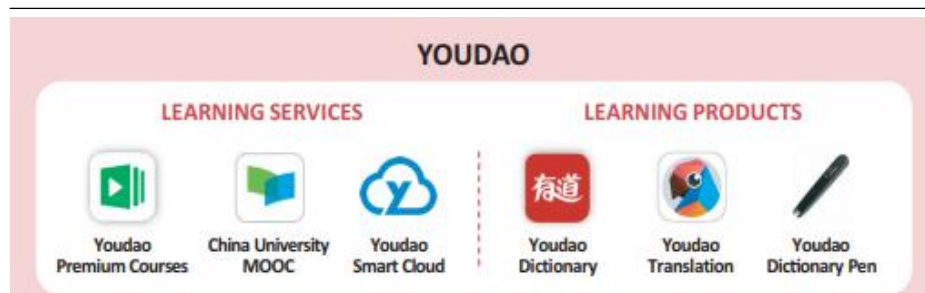
Source: Youdao Annual report, PSHK

Figure 28: Youdao revenue breakdown



Source: Youdao Annual report, PSHK

Figure 29: Youdao's product mix



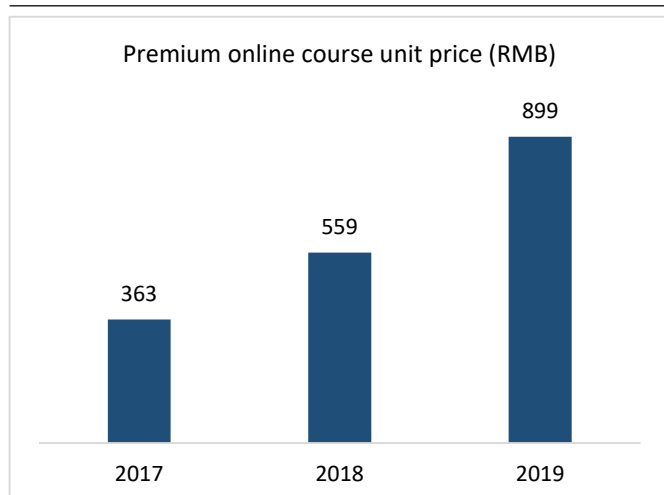
Source: Company

Learning services and product businesses

Youdao's learning services and product business mainly include online courses (such as Youdao premium courses, China University MOOC, etc.), sales of smart products (youdao dictionary pen) and APP paid value-added services (such as Youdao translation). Youdao learning service and product business revenue has grown rapidly in recent years, from RMB 150 million in 2017 to RMB 850 million in 2019, with a CAGR of 138% during the period. Among different products in this segment, the revenue of

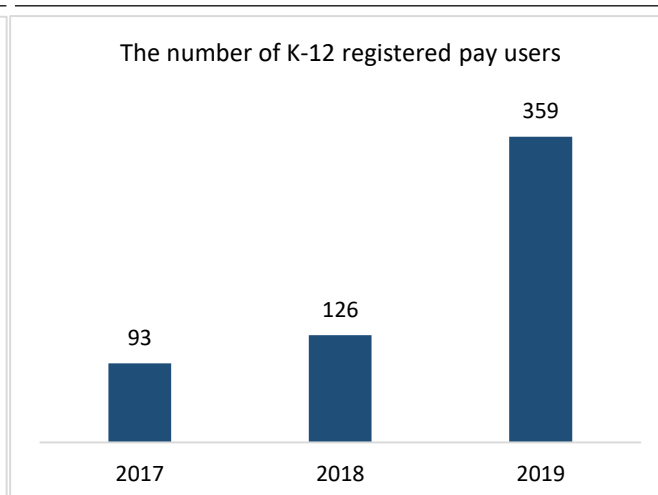
online courses accounted for the vast majority of the total income of learning services and products. The 2017/2018/2019 income of online courses were RMB 1.15/3.29/6.08 million, accounted for 77%/77%/71% of the total learning services and products' revenue. The revenue of Youdao Online Courses nearly doubled yoy in 2019, mainly due to 1) the strong yoy increase in K-12 pay users. In 2019, the number of pay users of K-12 online courses was approximately 359 thousand, representing a yoy increase of 185.2%. 2) The unit price of Youdao's online premium courses in 2019 rose by 61% yoy to 899 RMB.

Figure 30: Premium online course unit price



Source: Youdao Annual report, PSHK

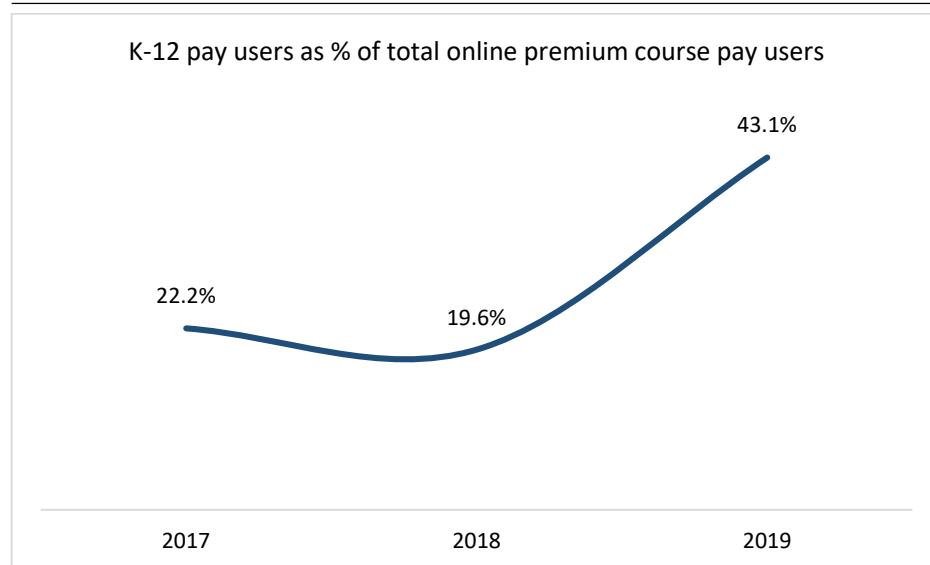
Figure 31: The number of K-12 registered pay users



Source: Youdao Annual report, PSHK

In 2018, the company began to focus on K-12 business and launched several products for K-12 students, including Youdao Mathematics and other learning tool products that use AI technology. The company also provides a series of K-12 online premium courses (including K-12 online after-school tuition classes and K-12 online programming classes). In terms of the K-12 business model, Youdao still insists on learning products (including APP and other tools) as the main channel for traffics, while online courses are the company's main channel for monetization. Youdao's number of K-12 pay users in 2019 was 359 thousand, accounting for 43% of the total number of pay users for its premium courses. This proportion increased by about 24% yoy comparing to 2018. It can be seen that the company's K-12 business layout has a significant effect, prompting it to fully capture the high demand and growth potential of China K-12 online education. In addition, Youdao has effectively increased its online presence and exposure in China's K-12 online education sector through cooperation with CCTV Video, Bilibili and other platforms during the epidemic period, which is expected to further accelerate the company's growth in K-12 online education market and enable it to occupy a certain market share.

Figure 32: K-12 pay users as % of total online premium course pay users



Source: Youdao Annual report, PSHK

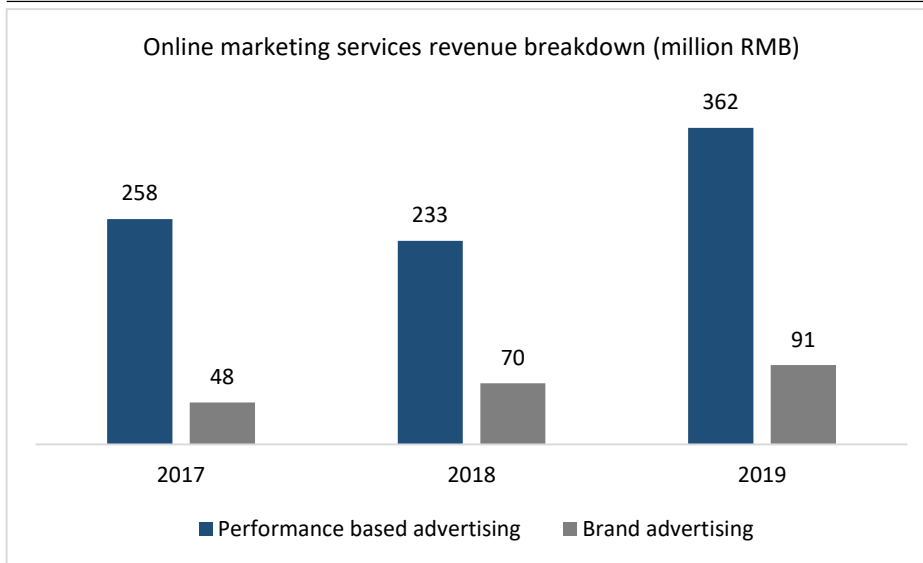
The innovative education model of Youdao premium courses

Youdao Premium Courses is the education brand of Youdao's large class teaching. Courses include K-12 courses, foreign language courses, interest classes, etc. Up to now, Youdao's premium courses have covered all ages from children to university students. Youdao's premium courses have evolved from the previous live broadcast large-class teaching to the current "Dual-Teaching" model (雙師模式) (lectures by famous teachers and supervisor supervises students), which makes online teaching more efficient. At present, Youdao's premium course has a unique technology platform, including live/recorded broadcasting system, question bank, mock examination and other systems. Youdao even tried to use AI technology by adding AI elements to the current "Dual-teaching" model, and launched an innovative+interactive large class model. The interactive large class mode uses AI technology to add intelligent machine-assisted interaction in the curriculum to improve user experience and teaching effects.

Online marketing services

Youdao's online marketing services are mainly advertising services provided by Youdao's product matrix. Youdao's huge user traffic makes its advertising platform valuable for advertisement. The company provides a series of advertising formats, including banner ads, video ads, etc. The company mainly provides CPC (cost per click) performance-based advertising, which advertising costs are based on the number of user that clicks on the advertisement. Performance-based advertising accounts for the vast majority of total online market service revenue, accounting for 84.4%/76.9%/80.0% in 2017/2018/2019. The company has approximately 3,000/1,800/2,400 performance advertiser clients in 2017/2018/2019, respectively. In addition, the company also provides brand advertisement services that charge a fixed advertising fee. In order to further retain customers, the company also provides other free value-added services, such as advertising effect analysis and advertising management etc.

Figure 33: Online marketing services revenue breakdown

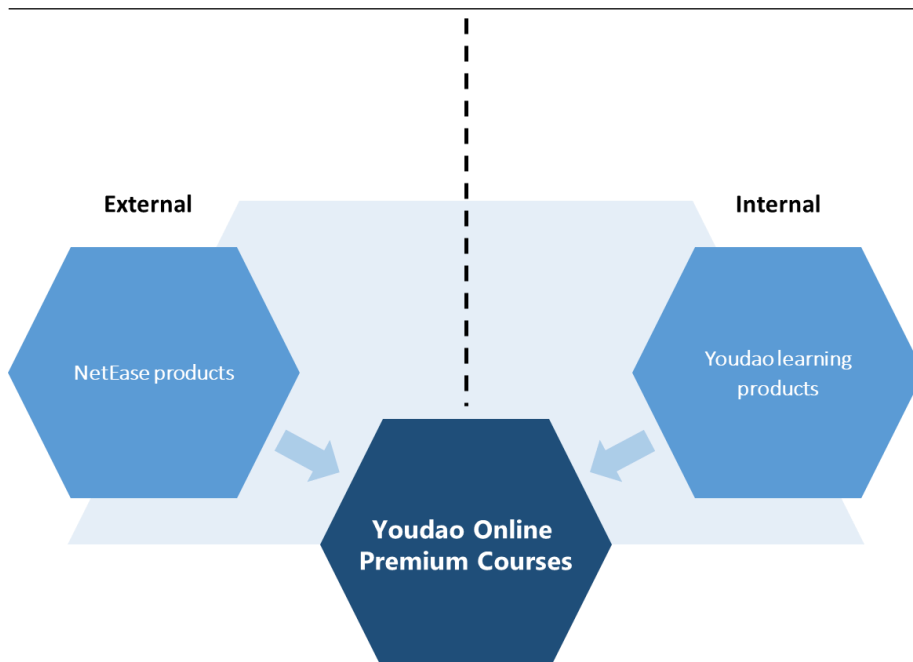


Source: Youdao Annual report, PSHK

Netease's products are provide user traffic for Youdao, greatly reducing Youdao's customer acquisition costs

We believe that although Youdao has been listed independently in the US, Youdao is still one of the indispensable business segments of NetEase. NetEase's products have always provided Youdao with a large amount of traffic. The company's management has also stated that NetEase's products such as NetEase mailbox and NetEase Cloud Music are the main sources of Youdao's important customers. Coupled with the above-mentioned on learning products (including APP and other tools) provides user traffic for Youdao internally. It greatly reduces Youdao's customer acquisition costs and enhances its competitive advantage in the emerging market of online education.

Figure 34: User traffic for Youdao's online courses



Source: PSHK

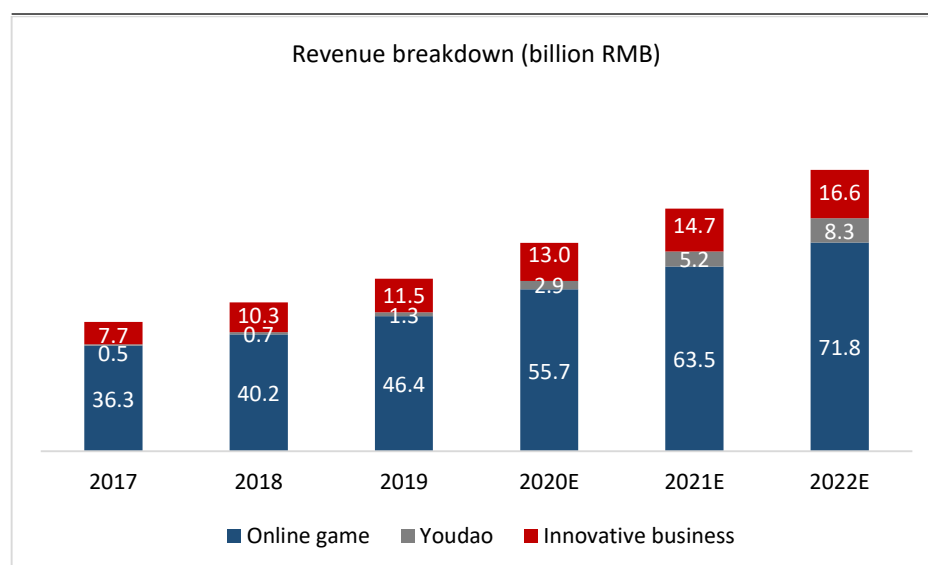
Financial Analysis and Forecast

Revenue

The company's revenue rose from RMB 44.4 billion in 2017 to RMB 59.2 billion in 2019, with a CAGR of 15.4% during the period. Within the total revenue, the online game business, which accounts for the highest revenue share, had a stable revenue growth, rising from RMB 36.3 billion in 2017 to RMB 46.4 billion in 2019, with a CAGR of 13.1% during the period. The main reason for the growth of the online game business was the excellent domestic and overseas performance of the semi-new games such as Identity V (第五人格) and Invincible (率土之滨). In addition, the 2017-2019 CAGR of the company's Youdao business and innovative business revenue was 69.2% and 22.3%, respectively. The high growth of Youdao's business revenue during the period was mainly driven by learning services and products (including online courses).

Looking ahead, we expect the company's online game revenue to maintain steady growth, taking into account the company's strong game R&D capabilities and past performance of new games in both China and domestic regions. Further, we expect the online game business in 2020 will benefit from the "stay-at-home" economy. We forecast its revenue growth to be 20% in 2020 and 13-14% in 2021 and 2022, as "stay-at-home" economy fades. As for Youdao's business, we believe that it is currently in a state of "high marketing costs and high income growth". In addition, the epidemic has greatly popularized K-12 online education in 20H1. Youdao's K-12 Performance growth was strong in 20H1, with revenue and the number of pay users both recorded large increases. Further, Youdao has added a number of K-12 subjects in 20H1. We believe these new subjects will become its new growth driver in the future. Based on the above reason, we forecast that Youdao's revenue will experience an explosive growth in 2020, about 120% and expect the revenue growth for 2021 and 2022 to be 80% and 60%. Finally, we believe that the company's innovative business, including NetEase Cloud Music, is currently looking for its optimal monetization model, hence based on a conservative approach, we forecast the revenue growth for innovation business in 2020-2022 to be 13% yoy.

Figure 35: Revenue Breakdown

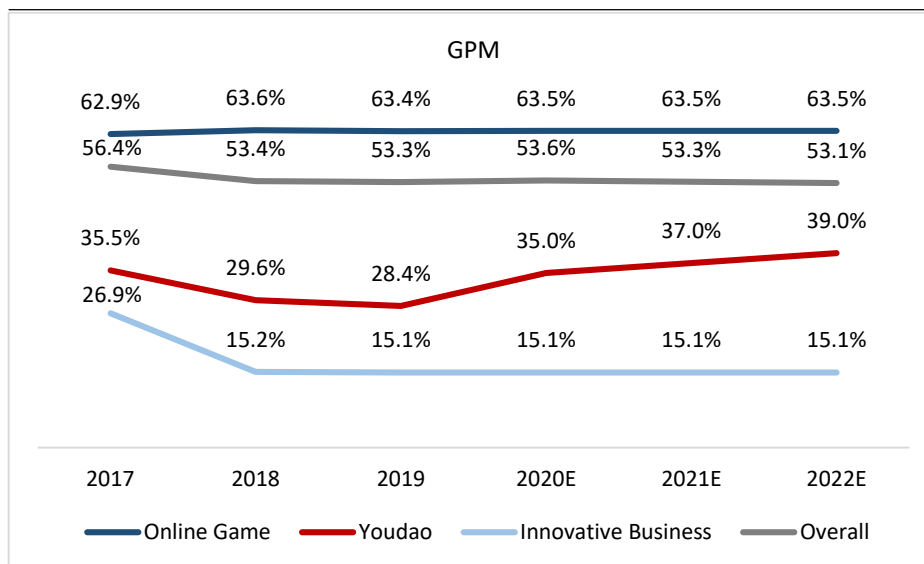


Source: Company, PSHK

GPM and expense ratios

The company's overall GPM in 2018 and 2019 were very stable, at 53.4% and 53.3%, respectively. In terms of online game business, as the business is relatively mature, the GPM of the online game business was basically the same in 2018 and 2019, at 63.6% and 63.4%, respectively. The GPM of innovative business in 2018 and 2019 were also flat at approximately 15.2%. The GPM of innovative business is relatively low, since the company hasn't workout-ed the optimal monetization models for these business yet. As for Youdao, the GPM in 2019 dropped slightly yoy in 2019, from 29.6% to 28.4%. We expect the future GPM of the company's online game business and innovation business will remain stable, at 63.5% and 15.1%, respectively. We forecast the Youdao GPM will increase yoy for the next 3 years, as the GPM of online courses is likely to rise correspondingly with the scale effect created by the increase in the number of pay users. We expect Youdao's GPM in 2020/2021/2022 to be 35%/37%/39%, respectively.

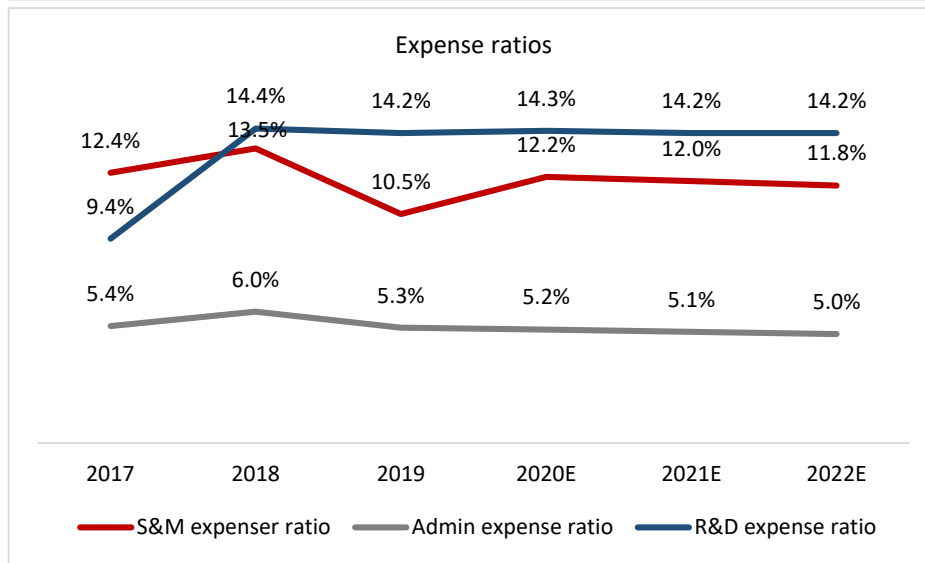
Figure 36: GPM



Source: Company, PSHK

We believe that compared with 2019, the company's future S&M expenses ratio will increase. The main reasons are 1) the increase in the cost of game advertising and 2) Youdao is currently at the state of "high marketing expense, high revenue growth". Youdao's 2Q20 S&M selling expense ratio was as high as 74.4%, but we think that it will drop yoy with the rapid growth of revenue. Based on the above reasons, we expect that the company's S&M expense ratio to be 12.2%/12.0%/11.8% in 2020-2022. On the other hand, the company's administrative expense ratio in 2017-2019 remained stable at around 5%, and we expect the expense ratio to remain stable in the future. At last. Since 2018, the company has increased its investment in R&D. In 2018, the R&D expense ratio increased by about 5pcts yoy, and then remained stable at about 14%. We believe that the company's strong R&D system is its main moat. Therefore, it is expected that the company will maintain its R&D expense ratio at roughly 14%, and continue to create hit games to maintain its competitive advantage.

Figure 37: Expense ratios



Source: Company, PSHK

Valuation

We forecast the company's 2020/2021/2022 Non-GAAP EPS to be RMB 5.06/5.75/6.53. We have adopted SOTP to value the company.

1) As of 2020/11/12 market close, the average 2021 PE of HK-listed tier 1-2 game companies is 22.0x. Considered that the company is an obvious leader in this sector, hence it deserves a premium in its valuation. We forecast the Non-GAAP net income for online game business in 2020/2021/2022 to be RMB 16.88/18.76/20.70 billion. We are giving a target 2021 PE of 25x. Hence, we value the company's online game business at HKD 530.06 billion, with respective 2020/2021/2022 PE at 27.8x/25.0x/22.7x.

2) As of 2020/11/12 market close, US-listed online education companies have an average 2021 PS of 5.8x. Considered that Youdao is smaller in scale comparing to its peer, hence we are giving a target 2021 PS of 4x to Youdao. We forecast Youdao's 2020/2021/2022 revenue attributable to the company to be RMB 1.68/3.03/4.84 billion. We value the company's share of Youdao at HKD 13.75 billion, with respective 2020/2021/2022 PS at 7.2x/4.0x/2.5x.

3) We forecast the company's revenue share of innovative business in 2020/2021/2022 to be RMB 9.76/11.03/12.46 billion. We are giving a target 2021 PS of 4x, hence we value the company's share of its innovative business at HKD 50.12 billion, with respective 2020/2021/2022 PS at 4.5x/4.0x/3.5x.

In conclusion, we value NetEase at HKD 596.9 billion, with target price at HKD 172.8, with respective 2020/2021/2022 Non-GAAP PE at 29.85x/26.31x/23.14x. We initiate with a BUY rating. (Market closing price as of 12th Nov) (exchange rate: RMB 0.88/HKD)

Risk

1) The tightening on Game regulations 2) The Games underperform comparing to expectation 3) The growth of Youdao is worse than expected 4) Failure in monetization for innovative businesses

Figure 38: Comparable valuation

Company	Stock code	Closing Price	Market Cap	PE				PS			
				TTM	2020E	2021E	2022E	TTM	2020E	2021E	2022E
		(listed currency)	(RMB mn)								
HK listed game companis											
XD INC	2400 hk equity	34.20	13,281	29.8x	27.1x	20.0x	15.0x	3.7x	3.9x	3.0x	2.5x
TENCENT	700 hk equity	577.00	4,729,200	45.0x	38.7x	30.9x	26.1x	11.0x	9.9x	8.0x	6.7x
NETEASE INC	9999 HK equity	139.40	411,866	-	17.6x	15.2x	12.1x	-	5.8x	4.9x	4.3x
FRIENDTIMES	6820 hk equity	2.15	4,011	8.8x	7.5x	5.7x	5.0x	2.1x	1.7x	1.3x	1.2x
NETDRAGON	777 hk equity	16.76	8,041	10.7x	9.3x	7.3x	6.2x	1.3x	1.3x	1.1x	1.0x
ZENGAME	2660 hk equity	1.17	1,019	6.0x	3.6x	3.3x	3.1x	1.5x	1.0x	0.9x	0.8x
ARCHOSAUR GAMES	9990 hk equity	16.90	11,785	-	18.1x	10.4x	8.2x	-	6.5x	3.5x	2.6x
IDREAMSKY	1119 hk equity	3.84	4,169	12.9x	8.2x	7.1x	6.4x	1.3x	1.3x	1.2x	1.0x
CMGE	302 hk equity	3.00	5,978	19.5x	7.4x	5.9x	5.2x	1.6x	1.4x	1.1x	1.0x
IGG INC	799 HK equity	8.23	8,666	5.8x	6.3x	7.4x	7.1x	2.1x	1.9x	1.8x	1.8x
			Average	17.3x	14.4x	11.3x	9.4x	3.1x	3.5x	2.7x	2.3x
			Median	11.8x	8.7x	7.3x	6.8x	1.8x	1.8x	1.6x	1.5x
China listed game companis											
WUHU SANQI	002555 CH equity	27.51	58,108	20.4x	20.2x	16.9x	14.3x	3.9x	3.6x	2.9x	2.5x
GIANT NETWORK	002558 CH equity	17.60	35,629	34.7x	32.3x	26.9x	24.1x	14.0x	13.0x	11.2x	9.6x
ZHEJIANG CENTURY	002602 CH equity	7.90	58,875	20.8x	15.0x	12.1x	11.5x	3.6x	3.4x	3.1x	2.8x
PERFECT WORLD	002624 CH equity	28.80	55,861	31.2x	22.6x	18.9x	16.3x	5.6x	5.3x	4.5x	3.9x
G-BITS NETWORK	603444 CH equity	436.36	31,359	33.5x	27.2x	21.7x	18.3x	11.8x	11.1x	8.6x	7.3x
			Average	28.2x	23.5x	19.3x	16.9x	7.8x	7.3x	6.1x	5.2x
			Median	31.2x	21.4x	17.9x	15.3x	4.8x	4.4x	3.8x	3.4x
US listed game companis											
EA	EA US equity	118.93	230,376	26.2x	25.6x	22.2x	20.0x	6.2x	6.7x	5.8x	5.5x
NINTENDO	NTDOY US equity	64.41	442,027	-	3.4x	15.9x	17.2x	-	4.8x	4.7x	5.0x
SONY CORP	SNE US equity	85.91	736,549	-	19.9x	19.3x	18.7x	-	1.4x	1.4x	1.3x
ACTIVISION BLIZZARD	ATVI equity	75.12	392,269	27.4x	22.9x	22.0x	19.3x	7.7x	7.4x	7.1x	6.6x
			Average	26.8x	18.0x	19.8x	18.8x	7.0x	5.1x	4.7x	4.6x
			Median	26.8x	21.4x	20.7x	19.0x	7.0x	5.7x	5.2x	5.2x
HK listed online education company											
KOOLEARN	1797 hk equity	26.60	21382.1x	-	-	-	-	19.7x	19.9x	12.0x	7.5x
US listed online education company											
TAL EDU	TAL US Equity	70.06	275086.1x	450.1x	252.2x	124.3x	60.4x	11.1x	12.3x	9.5x	6.7x
GSX TECH EDU	GSX US Equity	70.34	113705.2x	257.9x	-	1277.4x	98.1x	17.0x	15.8x	8.9x	6.1x
YOUDAO	DAO US Equity	24.15	18252.4x	-	-	-	-	11.9x	6.0x	3.3x	2.2x
CHINA ONLINE EDU	COE US Equity	23.33	3,607	52.0x	38.4x	21.7x	-	2.0x	1.8x	1.5x	-
			Average	253.3x	145.3x	474.4x	79.2x	10.5x	9.0x	5.8x	5.0x
			Median	257.9x	145.3x	124.3x	79.2x	11.5x	9.2x	6.1x	6.1x
US listed music platform											
SPOTIFY	SPOT US Equity	249.99	328,136	-	-	-	-	5.4x	5.3x	4.4x	3.6x
TENCENT MUSIC	TME US Equity	14.95	170,289	85.0x	35.6x	28.3x	22.5x	11.9x	5.8x	4.8x	4.0x
			Average	85.0x	35.6x	28.3x	22.5x	8.7x	5.6x	4.6x	3.8x
			Median	85.0x	35.6x	28.3x	22.5x	8.7x	5.6x	4.6x	3.8x

 As of 12th Nov Closing Price, US Stocks closing price as of 11th Nov

Source: Bloomberg

Financial Statements

Key Financial Data

	2018	2019	2020E	2021E	2022E
Valuation Ratio					
P/E ratio, x	64.6	18.6	29.2	25.1	21.6
Adjusted P/E ratio, x	36.8	25.2	24.2	21.3	18.8
P/B ratio, x	8.7	6.4	4.5	3.9	3.4
Per share data (RMB)					
EPS	1.90	6.59	4.20	4.88	5.67
Non-GAAP EPS	3.33	4.86	5.06	5.75	6.53
BVPS	14.14	19.03	27.56	31.27	35.58
Growth & Margin					
Revenue Growth	25.6%	-10.0%	40.4%	14.6%	14.0%
Operating income growth	-23.2%	38.2%	13.5%	17.3%	16.2%
Net income Growth	-42.5%	245.2%	-31.6%	16.2%	16.1%
Non-GAAP Net income Growth	N/A	45.5%	11.7%	13.5%	13.7%
Gross Profit Margin	53.4%	53.3%	53.6%	53.3%	53.1%
Operating profit Margin	19.5%	23.3%	21.9%	22.0%	22.1%
Net Profit Margin	12.0%	35.8%	20.3%	20.2%	20.3%
Non-GAAP Net Profit Margin	21.0%	26.4%	24.4%	23.8%	23.4%
Key Ratios					
ROE, Adj	23.4%	25.0%	18.4%	18.4%	18.4%
ROA, Adj	12.4%	14.0%	11.9%	12.3%	12.6%

Market closing price as of 12th Nov

Consolidated Statement of Profit or Loss

(RMB million)	2018	2019	2020E	2021E	2022E
Net Revenue					
Online game	40,190	46,423	55,707	63,506	71,762
Youdao	732	1,305	2,871	5,167	8,268
Innovative business and others	10,257	11,514	13,010	14,702	16,613
Total Net Revenue	51,179	59,241	71,588	83,375	96,643
Cost of Sale	(23,832)	(27,686)	(33,245)	(38,917)	(45,341)
Gross Profit	27,346	31,555	38,343	44,458	51,302
S&M expense	(6,912)	(6,221)	(8,734)	(10,005)	(11,404)
Admin expense	(3,079)	(3,130)	(3,723)	(4,252)	(4,832)
R&D expense	(7,378)	(8,413)	(10,237)	(11,839)	(13,723)
Operating profit	9,977	13,791	15,650	18,362	21,343
Investment income (loss), net	(22)	1,306	1,306	1,306	1,306
Interest income (net)	587	822	675	882	1,273
Exchange losses	(52)	25	-	-	-
Others	587	439	368	368	368
Pre tax income	11,077	16,383	17,999	20,918	24,290
Income tax	(2,461)	(2,915)	(3,335)	(3,876)	(4,500)
Net (loss)/income from discontinued operation	(2,139)	7,963	-	-	-
Net income	6,477	21,431	14,664	17,043	19,790
Non controlling interest	325	194	147	170	198
Net Income Attributable To Parent	6,152	21,238	14,518	16,872	19,592
Non-GAAP Net Income Attributable to Parent	10,761	15,663	17,499	19,853	22,573
EPS	1.90	6.59	4.20	4.88	5.67
Non-GAAP EPS	3.33	4.86	5.06	5.75	6.53

Consolidated statement of Financial Position

(RMB million)	2018	2019	2020E	2021E	2022E
Current Asset					
Cash and cash equivalent	4,977	3,246	34,216	46,250	60,266
Accounts receivable	4,002	4,169	5,106	5,947	6,893
Inventories	1,066	651	1,235	1,506	1,832
Others	58,670	77,039	77,039	77,039	77,039
Total Current Asset	68,716	85,105	117,597	130,741	146,029
Non Current Asset					
Property, equipment and software, net	4,672	4,622	5,363	6,223	7,221
Land use rights, net	3,272	3,707	3,707	3,707	3,707
Operating lease right-of-use assets, net	-	464	464	464	464
Long-term investments	5,245	9,294	10,600	11,907	13,213
Others	5,064	8,933	8,933	8,933	8,933
Total Non Current Asset	18,252	27,019	29,067	31,233	33,538
Total Asset	86,968	112,124	146,663	161,975	179,567
Current Liabilities					
Accounts payable	1,201	1,212	1,517	1,776	2,069
Short-term loans	13,659	16,828	16,828	16,828	16,828
Deferred revenue	7,718	8,602	9,745	11,350	13,156
Others	12,531	11,600	12,069	12,692	13,294
Total Current Liabilities	35,109	38,243	40,159	42,646	45,347
Total Non Current Liabilities	447	840	840	840	840
Total Liabilities	35,556	39,083	40,999	43,486	46,187
Equity					
Ordinary shares	3	3	3	3	3
Additional paid-in capital	-	3,914	3,914	3,914	3,914
Reserve	45,229	57,537	90,013	102,667	117,361
Noncontrolling interests	794	1,139	1,286	1,456	1,654
Total Equity	46,026	62,593	95,215	108,040	122,932
Redeemable noncontrolling interests	5,386	10,449	10,449	10,449	10,449
Total Liabilities, Equity and Redeemable NCI	86,968	112,124	146,663	161,975	179,567

Cash Flow Statement

(RMB million)	2018	2019	2020E	2021E	2022E
Net income	6,477	21,431	14,664	17,043	19,790
Depreciation and amortization	2,060	2,614	1,089	1,263	1,466
change in working capital	-1,301	-1,072	395	1,376	1,428
Others	6,179	-5,757	-887	-887	-887
Net cash generated from operating activities	13,416	17,216	15,261	18,794	21,796
Capex	-3,911	-3,329	-1,830	-2,123	-2,464
Others	-9,659	-18,808	0	0	0
Cashflow from investing activities	-13,570	-22,137	-1,830	-2,123	-2,464
Cashflow from financing activities	1,587	1,083	17,539	-4,637	-5,317
Net change in cash and cash equivalents	1,434	-3,838	30,970	12,034	14,015
Cash at beginning	8,691	10,207	6,397	37,367	49,401
Foreign exchange	82	29	0	0	0
Cash and cash equivalents at the year end	10,207	6,398	37,367	49,401	63,416
Cash, cash equivalents and restricted cash of held	-537	-1	0	0	0
Cash, cash equivalents and restricted cash of continuing operations, end of the year	9,669	6,397	37,367	49,401	63,416

PHILLIP RESEARCH STOCK SELECTION SYSTEMS

Total Return	Recommendation	Rating	Remarks
>+20%	Buy	1	>20% upside from the current price
+5% to +20%	Accumulate	2	+5% to +20% upside from the current price
-5% to +5%	Neutral	3	Trade within \pm 5% from the current price
-5% to -20%	Reduce	4	-5% to -20% downside from the current price
<-20%	Sell	5	>20% downside from the current price

We do not base our recommendations entirely on the above quantitative return bands. We consider qualitative factors like (but not limited to) a stock's risk reward profile, market sentiment, recent rate of share price appreciation, presence or absence of stock price catalysts, and speculative undertones surrounding the stock, before making our final recommendation

GENERAL DISCLAIMER

This publication is prepared by Phillip Securities (Hong Kong) Ltd ("Phillip Securities"). By receiving or reading this publication, you agree to be bound by the terms and limitations set out below.

This publication shall not be reproduced in whole or in part, distributed or published by you for any purpose. Phillip Securities shall not be liable for any direct or consequential loss arising from any use of material contained in this publication.

The information contained in this publication has been obtained from public sources which Phillip Securities has no reason to believe are unreliable and any analysis, forecasts, projections, expectations and opinions (collectively the "Research") contained in this publication are based on such information and are expressions of belief only. Phillip Securities has not verified this information and no representation or warranty, express or implied, is made that such information or Research is accurate, complete or verified or should be relied upon as such. Any such information or Research contained in this publication is subject to change, and Phillip Securities shall not have any responsibility to maintain the information or Research made available or to supply any corrections, updates or releases in connection therewith. In no event will Phillip Securities be liable for any special, indirect, incidental or consequential damages which may be incurred from the use of the information or Research made available, even if it has been advised of the possibility of such damages.

Any opinions, forecasts, assumptions, estimates, valuations and prices contained in this material are as of the date indicated and are subject to change at any time without prior notice.

This material is intended for general circulation only and does not take into account the specific investment objectives, financial situation or particular needs of any particular person. The products mentioned in this material may not be suitable for all investors and a person receiving or reading this material should seek advice from a financial adviser regarding the suitability of such products, taking into account the specific investment objectives, financial situation or particular needs of that person, before making a commitment to invest in any of such products.

This publication should not be relied upon as authoritative without further being subject to the recipient's own independent verification and exercise of judgment. The fact that this publication has been made available constitutes neither a recommendation to enter into a particular transaction nor a representation that any product described in this material is suitable or appropriate for the recipient. Recipients should be aware that many of the products which may be described in this publication involve significant risks and may not be suitable for all investors, and that any decision to enter into transactions involving such products should not be made unless all such risks are understood and an independent determination has been made that such transactions would be appropriate. Any discussion of the risks contained herein with respect to any product should not be considered to be a disclosure of all risks or a complete discussion of such risks.

Nothing in this report shall be construed to be an offer or solicitation for the purchase or sale of a security. Any decision to purchase securities mentioned in this research should take into account existing public information, including any registered prospectus in respect of such security.

Disclosure of Interest

Analyst Disclosure: Neither the analyst(s) preparing this report nor his associate has any financial interest in or serves as an officer of the listed corporation covered in this report.

Firm's Disclosure: Phillip Securities does not have any investment banking relationship with the listed corporation covered in this report nor any financial interest of 1% or more of the market capitalization in the listed corporation. In addition, no executive staff of Phillip Securities serves as an officer of the listed corporation.

Availability

The information, tools and material presented herein are not directed, intended for distribution to or use by, any person or entity in any jurisdiction or country where such distribution, publication, availability or use would be contrary to the applicable law or regulation or which would subject Phillip Securities to any registration or licensing or other requirement, or penalty for contravention of such requirements within such jurisdiction.

Information contained herein is based on sources that Phillip Securities (Hong Kong) Limited ("PSHK") believed to be accurate. PSHK does not bear responsibility for any loss occasioned by reliance placed upon the contents hereof. PSHK (or its affiliates or employees) may have positions in relevant investment products. For details of different product's risks, please visit the Risk Disclosures Statement on <http://www.phillip.com.hk>.

© 2020 Phillip Securities (Hong Kong) Limited

Contact Information (Regional Member Companies)

SINGAPORE

Phillip Securities Pte Ltd

250 North Bridge Road, #06-00 Raffles City Tower,
Singapore 179101

Tel : (65) 6533 6001 Fax: (65) 6535 3834

www.phillip.com.sg

INDONESIA

PT Phillip Securities Indonesia

ANZ Tower Level 23B, Jl Jend Sudirman Kav 33A,
Jakarta 10220, Indonesia

Tel (62) 21 5790 0800 Fax: (62) 21 5790 0809

www.phillip.co.id

THAILAND

Phillip Securities (Thailand) Public Co. Ltd.

15th Floor, Vorawat Building, 849 Silom Road,
Silom, Bangrak, Bangkok 10500 Thailand

Tel (66) 2 2268 0999 Fax: (66) 2 2268 0921

www.phillip.co.th

UNITED STATES

Phillip Futures Inc.

141 W Jackson Blvd Ste 3050
The Chicago Board of Trade Building
Chicago, IL 60604 USA

Tel (1) 312 356 9000 Fax: (1) 312 356 9005

MALAYSIA

Phillip Capital Management Sdn Bhd

B-3-6 Block B Level 3, Megan Avenue II,
No. 12, Jalan Yap Kwan Seng, 50450 Kuala Lumpur

Tel (60) 3 2162 8841 Fax (60) 3 2166 5099

www.poems.com.my

CHINA

Phillip Financial Advisory (Shanghai) Co. Ltd.

No 436 Heng Feng Road, Green Tech Tower Unit 604
Shanghai 200 070

Tel (86) 21 5169 9400 Fax: (86) 21 6091 1155

www.phillip.com.cn

FRANCE

King & Shaxson Capital Ltd.

3rd Floor, 35 Rue de la Bienfaisance
75008 Paris France

Tel (33) 1 4563 3100 Fax : (33) 1 4563 6017

www.kingandshaxson.com

AUSTRALIA

PhillipCapital Australia

Level 10, 330 Collins Street
Melbourne VIC 3000 Australia

Tel: (61) 3 9618 8238 Fax: (61) 3 9200 2277

www.phillipcapital.com.au

HONG KONG

Phillip Securities (HK) Ltd

11/F United Centre 95 Queensway Hong Kong

Tel (852) 2277 6600 Fax: (852) 2868 5307

www.phillip.com.hk

JAPAN

Phillip Securities Japan, Ltd

4-2 Nihonbashi Kabutocho, Chuo-ku
Tokyo 103-0026

Tel: (81) 3 3666 2101 Fax: (81) 3 3664 0141

www.phillip.co.jp

INDIA

PhillipCapital (India) Private Limited

No. 1, 18th Floor, Urmi Estate, 95 Ganpatrao Kadam Marg,
Lower Parel West, Mumbai 400013

Tel: (9122) 2300 2999 Fax: (9122) 6667 9955

www.phillipcapital.in

UNITED KINGDOM

King & Shaxson Ltd.

6th Floor, Candlewick House, 120 Cannon Street
London, EC4N 6AS

Tel (44) 20 7929 5300 Fax: (44) 20 7283 6835

www.kingandshaxson.com

SRI LANKA

Asha Phillip Securities Limited

Level 4, Millennium House, 46/58 Navam Mawatha,
Colombo 2, Sri Lanka

Tel: (94) 11 2429 100 Fax: (94) 11 2429 199

www.ashaphillip.net/home.htm