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EXPLORATORY STUDY OF MONETIZATION STRATEGIES IN CHINESE F2P MOBILE GAMES CASE STUDY OF "HONOR OF KINGS"

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Summary

This paper focuses on exploring and analyzing how does Chinese free-to-play mobile game make monetization strategies, with a case study on t the most famous and successful free-to-play MOBA mobile game in China, "Honor of Kings".

The introduction chapter provides brief historical background information on the development of video games and the origin of their monetization strategies. And then it will narrow down to introduce more specifically about development of mobile game and its monetization history. Lastly, it will describe current situation of Chinese mobile game market with quantitative data support from third-party statistics providers such as Statista and other relative sources.

Next chapter of prior research focuses on providing background information on existing major business models for mobile games, including Premium model, Freemium model, and Subscription model. The Freemium model, which is the main focus of this study, is explored by dividing into two main methods: advertising and in-app purchase, with explicit analysis on advantages and limitations of each method. This chapter also introduces the framework of ARM Funnel, which is generally used to describe the freemium business model in mobile games under three sequential phases: Acquisition, Retention, and Monetization. This framework will be implemented into the analysis in the case study chapter.

In the next chapter of case study, which is an exploratory study and analysis on the

monetization strategies of “Honor of Kings” that has made it the most successful and famous free-to-play MOBA mobile game in China since its launch in 2015. The case study focuses on providing background information of the game and its publisher Tencent, and game’s design of gameplay system, progression system, as well as the monetization system. It will then analyze the specific monetization strategies of the game on both advertising and in-app purchase with the framework of ARM Funnel, from user acquisition to user retention, and then to monetization. The case study will also collaborate on the characteristics and unique features of the game that potentially help the game to succeed, including sufficient monetary resource, high-quality contents, large user base with an increasing number of daily active users, as well as the unique “socialization properties” that has made it “one of a kind”.

Then in the next chapter of discussion, two topics that could potentially affect monetization strategy making for free-to-play mobile game developers will be discussed, including regulatory policies & restrictions in China and effects of IDFA-related changes.

In the last chapter of conclusion, it wraps up with conclusive findings from my exploratory research through the case study on “Honor of Kings”, and then further discuss the limitation of the research, as well as possible future study directions on aspects such as monetization strategies of small and medium gaming companies, as well as innovative ways of advertising such as in-game product placement and audio ads.

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CHAPTER 1. INTRODUCTION

This paper focuses on exploring different monetization strategies that are widely applied in current Chinese Free-to-play (F2P) mobile games industry from perspective of the game publishers, illustrated by case study of three chosen most monetization-successful Chinese F2P mobile games, “Honor of Kings”, “Onmyoji” and “Genshin Impact”.

Section 1. HISTORICAL BACKGROUND

1.1.1. Origin of Video Game and its Monetization History

History of video game can be traced back to as early as when the first video game programmed purely for entertainment, Tennis for Two came out in 1958. (Rechsteiner, 2020).

The first commercial arcade video game, Computer Space, created by Nutting Associates, was introduced in 1971. In the following year, 1972, Atari was founded by Nolan Bushnell, who developed Computer Space. Atari integrated the computer with a display screen, into a box with a coin slot, thus invented the video game machine. For the very first time in history, a video game was available to a broader public for very little money. (Rechsteiner, 2020). After left Nutting Associates to form Atari, Nolan Bushnell then produced Pong, the first truly successful commercial arcade video game.

The game Space Invaders (1978) heralded the beginning of the golden age of the arcades, where the teenagers of the 1980s gambled away their pocket money on video game machines. (Rechsteiner, 2020).

1.1.2. Development of Mobile Games

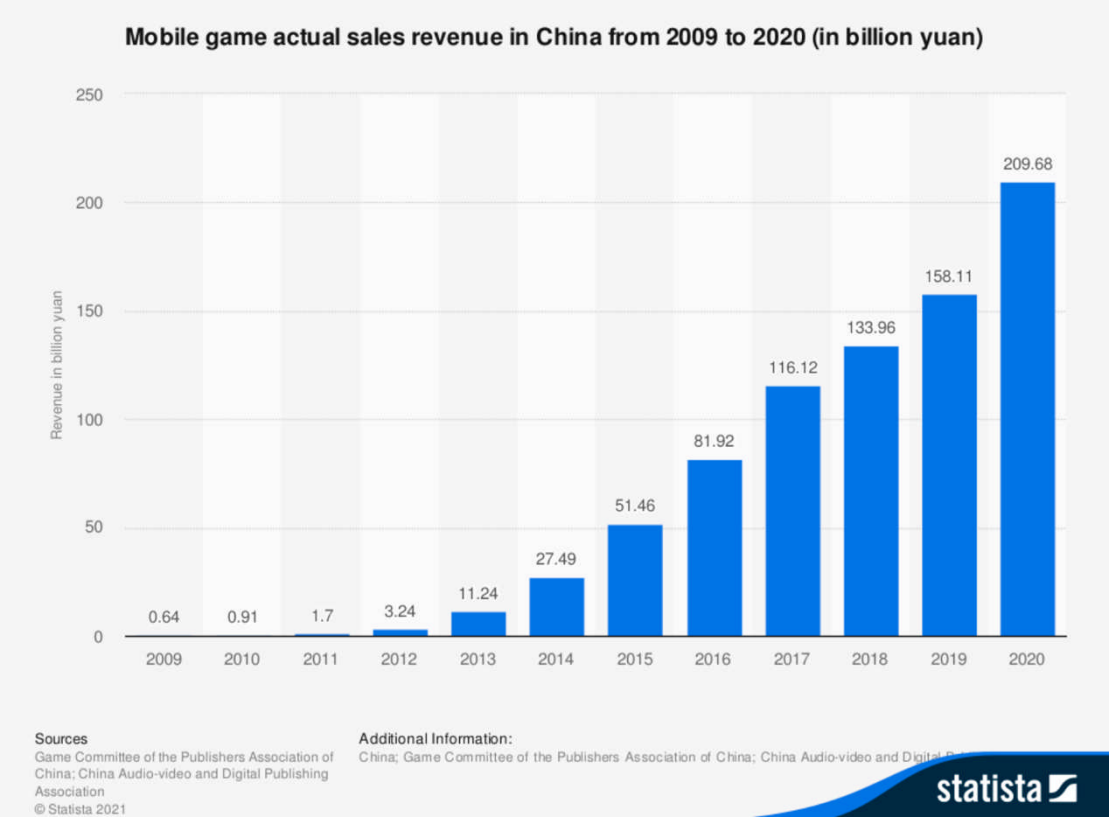
Obviously, you can trace mobile games back to the earliest mobile phones, but mobile games didn't really take off until Nokia launched Snake (Wright, 2016). However, the real “game-changing” event was the release of iPhone in 2007 as the Internet has become faster, cheaper, and more reliable. The launch of the App Store in 2008 was as revolutionary for the gaming world as iTunes was for the music industry (Klayman, 2019).

Section 2. CHINESE MOBILE GAMES MARKET

The gaming industry has developed in leaps and bounds in China. With almost 665 million players who spent over 278 billion yuan on video games, China boasts the world's most lucrative gaming market[1] (Lai Lin Thomala, Mar 4, 2021).

As we know, Chinese mobile game market has grown into a huge on in the last decades. According to data collected by Game Committee of the Publishers Association of China and China Audio-video and Digital Publishing Association and published on Statista (Fig. 1), Mobile game actual sales revenue in China has grown from 0.64 billion yuan in 2009 to 209.68 billion yuan in 2020.

Figure 1: Chinese Mobile Game Sales, 2009-2020

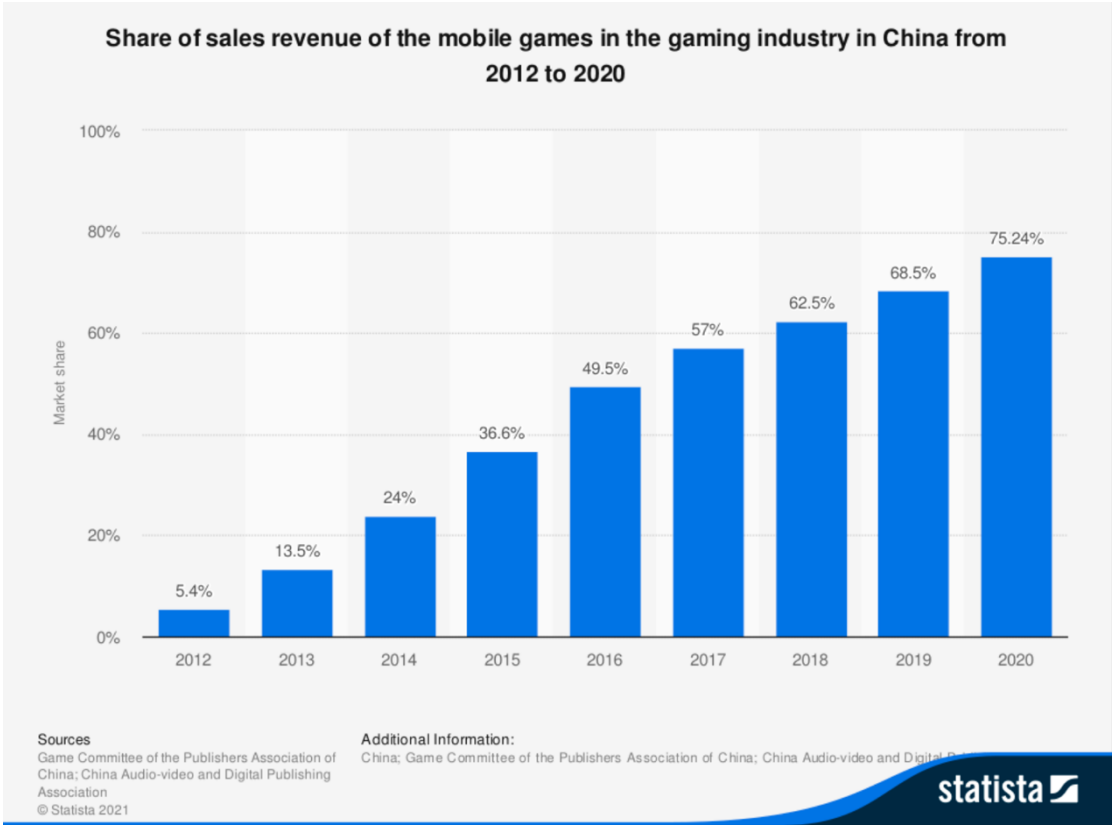


Source: Statista

[1] http://www-statista-com.aps01.keyan123.cn/topics/4642/gaming-in-china/

As shown in figure 2, over the past decade, the Chinese mobile gaming market has developed rapidly, accounting for over 75% of China's total gaming sales revenue in 2020. The sector was estimated to continue to grow further by double digits in the next few years.

Figure 2: Share of Sales Revenue of Mobile Games in China, 2012-2020



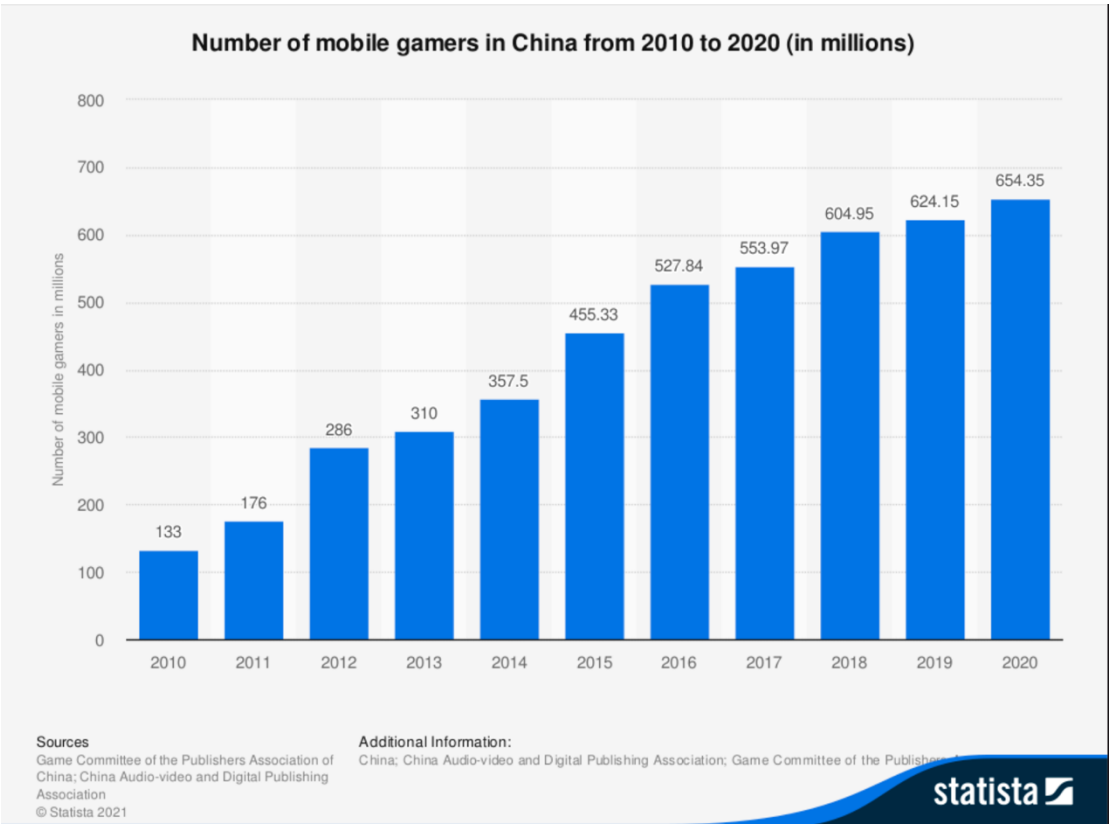
Source: Statista, Game Committee of the Publishers Association of China, December 18, 2020

China has a huge mobile gamer base comparing to other nations or areas. In fact, over half of the Chinese population would be playing mobile games by 2020, accounting for most gamers in the domestic market. This gaming community is not only massive but also more engaged compared to other markets. In general, Chinese mobile gamers played at least once per day with an average session lasting for about ten minutes. The users were also willing to spend money in games, which was reflected by a rising average revenue per user (ARPU) in the previous few years.

However, in China, there are certain regulatory restrictions and cultural preferences that

every single gaming company must follow and consider no matter being a domestic or international company. For example, China's Ministry of Culture has completely banned the manufacturing and sales of video game consoles since 2000, concerning that they could cause delinquency in children, as well as other physical and mental side effects. (Simmons, 2020). Even though the ban was lifted in 2015, the regulatory procedures such as "no real blood" and "no skeletons" applied to game contents are still factors that game creators have to bring into considerations in the Chinese gaming market. Therefore, international gaming giants often struggle to compete with domestic rivals. Under this context, Tencent remained the leading mobile game publisher in China. The enterprise had extended footprint to E-sports in mobile game sector with its unprecedentedly successful MOBA F2P mobile game, "Honor of Kings", which will be explored and analyze on its monetization strategies as a case study.

Figure 3: Number of Mobile Gamers in China, 2010-2020



Source: Statista, Game Committee of the Publishers Association of China, December 18, 2020

From 2010 to 2020, the number of mobile gamers has been consistently increasing and peaked at 654 million in 2020, and its growth was projected to slow down in the coming years (Figure 3).

CHAPTER 2. PIROR RESEARCH

Currently, there are three main business models that are widely applied to most of mobile games in the world today, including Premium model, Free-to-play (F2P) model, and Subscription model.

Game publishers are always aiming to not only make great games that people can enjoy playing, but also generate profits as businesses. To put it in a simple way, these three major business models for mobile games are essentially differentiated by when and how players pay for the game or service provided by the game producers.

For the premium model, which has been the dominant monetization method for game publishers since the very beginning of video game's commercialization history, players pay a fixed amount of money for once so that they could enjoy the game for as long as they want to; for the freemium model, players are not required to pay before they could start downloading and playing the game; the last major business model is the Subscription model, which requires players to pay the subscription fee (usually on a monthly or annually basis) in order to get access to play the game. I will further explain the specific monetization methods and strategies within these three business models in the next few sections.

Section 1. PREMIUM MODEL

The premium model has been the dominant in the entire gaming industry for many years, especially for PC and console games before the mobile game era started. The launch of Apple's App Store and Google's Google Play Store in 2008 (Google Play Store was rebranded from Android Market in 2012) was revolutionary for mobile games because for the very first time in history, the user could simply download a game in seconds with a click of a button on the mobile device. Mobile games were still considered as experimental and immature back then, and most of them took the same premium model from PC and console games into mobile games, meaning that users could only start playing after they have purchased and downloaded those games first.

The next milestone on the path of mobile game monetization's development history was when Apple enabled in-app purchase (IAP) for free apps in 2009. From then, more and more mobile games started either transforming their business model from premium to F2P model or directly launching as a F2P game. Limited monetization capability and potentials of premium model have gradually lost attraction to game publishers. For instance, in 2008, a game called Super Monkey Ball from Sega was one of the most popular mobile games in app store. The game was originally priced at $9.99 and was purchased & downloaded for over 300,000 times in its first 20 days after release. Even though it might seem to be overpriced comparing to price of other paid app as of in today's world, it was quite common in the age when App Store was still new. However, price of Super Monkey Ball was reduced to $3.99 within a year in order to stay competitive when increasing number of mobile games started reducing their prices. By 2012, the price went down to as low as only $0.99.

Section 2. FROM PREMIUM TO FREEMIUM – WHAT'S GOOD ABOUT THE FREEMIUM MODEL?

Nowadays, Freemium model has been used by most mobile game developers in the world because of its unlimited potential. Based on my research, there are three major advantages of the Freemium model.

First of all, from user's perspective, players can play these F2P mobile games totally for free, and they can try these games first and then decide whether to continue to play or not without worrying about purchasing cost. This change was revolutionary because in the business world in general, a customer has to pay for the product or service. Under the Premium model, there were only two options for players: "pay to play" or "not pay to not play". I will further explain how game developers and publishers make money if players do not need to pay to play the games in later sections.

The second advantage is that, from game developer's perspective, comparing to the Premium model, the Freemium model can provide unlimited potential revenue in the long run if appropriate

monetization strategies can be made and adjusted overtime. For example, according to a blog from ironSource, the famous game Angry Bird was a premium app with an original price of $0.99 but later switched to freemium in 2011; similarly, game Temple Run was released as a paid game in 2011 with a price of $0.99 and quickly became a F2P game. Game's revenue went up over 10 times upon switching to the Freemium model and became No.1 top grossing app by January 2012 through revenue generated from in-app purchases (Klayman, 2019).

The last advantage is that, for both customers and developers, the Freemium model can provide the potential reach for the widest possible audience by removing the barriers of entry (Kuusisto, 2014).

Section 3. FREEMIUM MODEL – HOW DO F2P GAMES MAKE MONEY?

Back to the question mentioned earlier, how do game developers actually generate revenue when players can play for free? Under the Freemium model, F2P game developers usually generate revenue through indirect monetization, like advertising, and direct monetization, like in-app purchase (IAP), or a combination of both, which is usually called the hybrid monetization model.

2.3.1. Advertising

(1) Basic Mechanism

Advertising has become the major revenue source for many Internet companies, especially for the giants such as Google and Facebook for quite a while. To briefly introduce the mechanism behind mobile advertising, there are usually two main parties involved in an ad serving process: the advertisers who provide ad placements and the publishers who offer ad space in their mobile apps or games. Just like how people buy and sell things in the market, advertisers and publishers trade similarly for ad placements on ad networks through ad exchange agencies. Businesses usually run advertising champaigns through guaranteed contracts or more popularly through unguaranteed Real Time Bidding (RTB) process. (Truong et al., 2019). The RTB process has been considered as a much more cost-efficient and dynamic type comparing to traditional advertising champaigns, and it was created and maintained by the Interactive Advertising Bureau (IAB), who has defined the

specifications for this ad serving process. (See details on RTB process in Appendix A). RTB advertising is also called programmatic advertising because the bids are highly automated and informed by data and models. To explain the process in a simple way, when a user opens the mobile game/app (or make some other actions that trigger the ads), an advertising auction takes place in milliseconds and the auction winner can make the ad impression. The intermediaries got paid from the advertisers per the numbers of impressions and click supplied and pay back the publishers by the numbers of impressions and clicks delivered. (Kumar, 2016).

(2) Advertising Pricing Models

There are many popular advertising pricing models depending on how the advertising cost is calculated. For example, costs of display ads that are usually in form of static pictures such as banner and interstitial ads, are typically calculated by cost-per-thousand (CPM) model. The CPM pricing model is also referred as cost-per-"mile" model that basically sets a flat rate for every 1000 views an ad gets. For example, a $3 CPM means the advertiser pays $3 for every 1000 impressions that the ad receives. Originally, CPM was designed mainly to build brand awareness. Although CPM has been one of the most commonly used pricing model, the biggest flaw of this model is that advertisers will be charged regardless of whether anyone clicks their ads or not. Therefore, nowadays, pricing models such cost-per-lead (CPL) and cost-per-action (CPA) that are more advertiser-friendly are becoming more popular. In the CPL model, advertisers only pay for every qualified lead, which is generally defined by a user's explicit action such as filling out a survey or providing contact information. This model eliminates the possibility of advertisers paying for accidental clicks and views made by users. And similar to the CPL model, the CPA model requires even more specific actions to be made by users like placing an order on the sponsored item. For the more interactive ad formats playable ads such as rewarded video ads and offerwall ads, cost-per-click (CPC) and cost-per-install (CPI) pricing models work more cohesively with them. The CPC model requires a user to click on the ad to be counted as an impression, and the CPI model is decided by how many times the sponsored app/game has been downloaded and installed. For example, if the advertising campaign generates 1000 clicks at a $0.3 CPC, the advertiser will pay $300. The CPC model is the

best way to drive performance and generate revenue for in-app advertising, however, depending on whether the purpose is to attract more users or to directly increase revenue, developers might need a mix of multiple in-app advertising pricing models and monetization strategies to balance user acquisition, retention, and monetization.

(3) Different ad formats

Given the rising importance of advertising in the entire monetization strategy making for F2P mobile game developers, the variety of advertising formats has also been expanding to better fit in different needs from game developers. In general, we can categorize by purpose of the advertising into two types: (1). Advertising for user acquisition; (2). Advertising for monetization. To put it in another way, user acquisition advertising aims to attract as many as possible people to know about that specific game and eventually to guide users to download it; while advertising for monetization is often completed through in-app advertising.

In-app advertising has many different formats including banner ads, interstitials, rewarded videos, native ads, playable ads, and offerwall ads, etc. Brakenhoff and Spruit (2017) distinguished two types of behaviors in mobile advertising: (1). The user can or does not interact with the ad; (2). The second behavior does involve the user performing an action, for example clicking on the ad. The first type of behavior means that the user makes no action related to the static ads like banner and interstitial ads and therefore is not engaged with the ads. While the second type behavior means that the user is engaged with the ads when the interaction happens. (Brakenhoff and Spruit, 2017). For instance, rewarded video ads can often be found in casual or hyper-casual games like Candy Crush when players have used up their in-game lives and triggered the system message saying something like “Watch this ad for 30 seconds to get another life”. In order to measure the effectiveness of the advertising methods, there are many indicators of measurements that are essential for publishers and advertisers when making optimizations on ad champaigns. The Click-Through-Rate (CTR) is the measurement that is most commonly used in mobile advertising and indicates the performance by providing a ratio of the number of times that an ad is served and the number of times that the ad is actually clicked by the user.

(4) IAP's disadvantages & challenges ahead

Even though in-app advertising has been an effective monetization method for mobile game developers, its monetization capability is still limited comparing to the unlimited potential in the monetization capability of in-app purchase. According to an article on eMarketer, the trend toward increased revenues from purchases began in Q3 2019 but accelerated in H1 2020, when there was an 11% drop in advertising revenues and a 15% increase in IAP revenues among the same group of hybrid apps (Wurmser, 2020). Besides the limited monetization capability potential of in-app advertising, the trend that users have become less tolerant of ads and more concerned about privacy protection issues endangers the future development of in-app advertising as well.

2.3.2. In-app Purchase (IAP)

For free-to-play mobile games, which the core service is free, but revenue is generated through sales of additional products and services (Kumar, 2014), the importance of in-app purchase is obvious for game developers to consider when making monetization strategies for their games. Nowadays, in-app purchase has become one of the most effective monetizing methods for free-to-play mobile game developers around the world. Free-to-play mobile games are based on the promise of free entertainment, which means that everyone can engage with the game content for free. However, unlike most PC or console games under the premium model, which provides only game engagement for those who have paid the fixed amount of money, free-to-play mobile games can provide game engagement for everyone, but degree of engagement can differ from one another's depending on whether these users are willing to pay for in-app purchase or not and for how much. Once the users have downloaded and started playing the game, it's important to understand how user's purchase intention is connected with user's perceived value of the purchasable contents.

In the mobile game industry, in-app purchase represents the products that game developers are trying to sell to their consumers, which are the gamers in this case. Thus, it's important to understand the purchasing behavior of the gamers. And consumer's perceived value is an essential concept when studying purchasing behavior of the consumers. Perceived value is defined as the consumer's overall assessment of the utility of a product or service, determined by a consumer's

perception of what is received and given. (Hsiao & Chen, 2016). Before trying to understand the perceived value of our consumers on purchasable content, we should first categorize in-app purchase clearly to see what exactly these games have been trying to sell.

(1) Categorization of in-app purchase

Even though in-app purchase includes not only purchasable content but also in-app subscriptions such as membership subscription of online streaming services from providers like Netflix and HBO, I want to focus on the purchasable content part in this section and will take about in-app subscription in the Subscription model as one of the major business models in a later section.

Purchasable content generally falls into two categories, cosmetic content, or gameplay content. (2017, Cobb). In general, cosmetic content includes skins of figures or weapons, and other personal customization related items that typically only possess cosmetic value without affecting gameplay balance in most F2P mobile games. Cosmetic items allow players to be able to express their personal styles and tastes, and sometimes can also serve as status symbol when the cosmetic content shows player's rankings or social status in the game. Cosmetic content can also possess social interactive value in particular games, including the Chinese MOBA game "Honor of Kings" that I will analyze specifically in case study.

While gameplay content is usually related to the progress system of the game that provides optional purchasable items that could potentially help paying users to accelerate progression speed. Gameplay content can include upgraded or rare weapons and gears that could strengthen characters to progress to higher levels faster, or stamina recovering items that are significant in particular games to increase the amount of time that a player could keep progressing in game without having to wait for stamina to recover slowly by itself in a natural rate. In recent year, increasing number of F2P mobile games started introducing progression-based rewarding system in forms of "season pass" and "battle pass", etc. Depending on the game genre and gameplay style, different forms of progression-based rewarding pass have been developed to meet different need from gamers. For example, "battle pass" has become a must-have feature for most MOBA games, which require players to proactively engage in game to complete a series of progression tasks and receive the

reward items by phases. Currently, “battle pass” is already found in all the top 100 grossing Shooter and MOBA games in China. (Heikkinen, 2019).

Even though both cosmetic and gameplay content are available for gamers through direct purchase, the randomized content pack, which is known as “loot box” in western gaming cultural and “gacha” in Japanese gaming cultural, is the ultimate monetization “weapon” for F2P mobile games.

(2) “Double-Edged-Sword” – the “Loot Boxes” System

Loot boxes are purchasable virtual boxes comprised of randomly determined in-game virtual items that vary in value based on their rarity in the game. (Larche et al., 2019). Although the notion of loot boxes originated in MMORPGs, they quickly became one of the most common forms of monetization implemented into free-to-play mobile games. (Ball & Fordham, 2018). In Japan, the loot box system works the same as the “gacha” system, which is a lottery mechanism to win virtual items, as game of chance elements in mobile games which is used for monetization in freemium business models. And it has been proved to be extremely successful in terms of monetization results in the example of the F2P mobile game Fate/Grand Order from Sony’s Aniplex. Based on report from Sensor Tower, by January 2020, it has surpassed $4 billion in lifetime player spending and became Japan’s top grossing mobile game of 2019. (Chapple, 2020). The commercial success of Fate/Grand Order was largely contributed by in-app purchase from loot boxes in “gacha” system. These loot boxes usually contain items from different levels of rarity that are typically named after rare mental names such as “platinum, gold, silver, and bronze” or simply named as “ultra-rare (UR), super-rare (SR), rare (R), and normal (N)”. The basic logic behind loot box is that the higher the rarity level is, the harder it is for player to get. In some games, the chance of getting the rarest item in a “luck draw” of a loot box can be as low as even below 1%; yet, many gamers around the world are still spending tons of real money purchasing these loot boxes, hoping that they would get what want someday as long as they are still purchasing these loot boxes.

It might be hard to understand the logic behind this unlimited real money spending behavior of game players at first glance, however, the theory basis of “loot box” system design could be

traced back to 1948, when Burrhus Frederic Skinner designed the famous "Skinner Box" (see Appendix B) for behavioral psychology experiment on Operant Conditioning. To explain the mechanism of the experiment in a brief and simple way, Mr. Skinner put a rat in the box with a button (lever), which when pressed by the rat, it would get food from the food cup. However, when the food stopped dropping when the rat pressed the button but started dropping in random frequencies, the rat would still press the button continuously for a long period of time. Similarly, in the scenario when a player draws the loot boxes, the result of this draw might not have what the player wanted, therefore motivates the player to keeping drawing loot boxes until eventually gets it. This type of addictive behavior has already been linked with gambling behavior in many studies. Recent research has established connection between problem gambling severity and player's spending on loot boxes, arguing that the loot box system within games may act as a 'gateway to gambling'. (Zendle & Cairns, 2018). Therefore, related government agencies in many countries have gradually realized the importance of guiding the video game industry to the right development direction with some degree of regulatory restrictions. For example, Chinese Ministry of Culture passed a series of new laws in December 2016, requiring game makers in China and overseas games that operate in China to expose loot box drop rates to the public. (NeoGAF, 2016).

Although the "loot box" system might encourage addictive purchasing behavior of game players in some cases, game developers can still monetize effectively with proper monetization design to follow relevant laws, putting efforts on continuously improving gaming experience of players and guide them to consume by their own desire. Even though there is no perfect monetization strategy that works for every single F2P mobile game, my exploratory study will be conducted through case studies in a later section.

Section 4. SUBSCRIPTION MODEL – "GAME AS A SERVICE"

After introducing the Premium and Freemium model, here comes the last major business model that has been widely applied in not just the video game industry but also in online streaming

and many other renewing-content-based industries, the subscription model. Nowadays, subscription model has already been used by most online media streaming service providers such as Netflix and Hulu. After consumers pay the subscription fee, which is typically charged monthly, quarterly, or annually, they will get access to the content by the service providers. Obviously, there are many advantages of this business model for consumers, who do not have to pay for premium prices to buy movie or TV show titles individually and can now watch from mobile device whenever and wherever they want to as the internet is getting faster, cheaper, and more reliable. In the video game industry, the subscription model has been adapted by most massive multiplayer online role play game (MMORPG) in the world. And one of the most classic and successful examples of subscription-based games will be the famous MMORPG game World of Warcraft, which was made by Blizzard in 2004. By 2015, World of Warcraft had over 5.5 million active players, and with a monthly subscription rate of $14.99, the game had an annual revenue of $82 million. (Campbell, 2019).

Having been operating for almost two decades, Blizzard's World of Warcraft has mostly maintained the subscription-based business model with added cosmetic contents such as pets and outfits that are only available through in-game purchase. However, the latest changes made on the business model early this year have been quite controversial. On the official website of World of Warcraft, 30 days, 90 days, and 180 days subscription plans have been eternally removed, and from then $29.99 for two-month subscription plan would be the only option left for players. It might not seem to be influential at a first glance but what it means for players is that for existing players, they would no longer enjoy the slightly discounted price when they used to subscribe for 180 days; and for new players who just want to give a try on this classic game, their entrance cost of the game has increased from $14.99 to $29.99, which can be problematic from perspective of acquiring new players for the game. In fact, when the game was first released in 2004, the subscription model was not the same one as we know today. It was called the "point card" system that requires players to purchase these prepaid cards to increase the available time they could play. For example, the point cards were priced at 30 RMB for 4000 minutes of play time and 15 RMB for 2000 minutes of play

time in China since the Chinese server started operating in 2005. And the prices only increased once in 2014 by reducing play time (4000 to 2700 minutes and 2000 to 1350 minutes) with the same prices. For a long-time operating game like World of Warcraft, it does make sense to raise the playing cost of subscription rate so that the game could generate profit and keep operating it for as long as possible with coming updates on new features and contents. The real challenge for Blizzard is exploring for the most balanced business model with appropriate monetization strategies. Difficulty to contain only one exclusive game title under the subscription model is much bigger than we can imagine.

In recent year, increasing number of big game companies that were used to rely on the premium business model to profit from one-time purchase on game titles have been conducting research, looking for more effective and efficient monetization methods to increase their profits. For instance, Microsoft has released Xbox Game Pass prices for $9.99 per month and Game Pass Ultimate $14.99; Google's cloud gaming platform Stadia offers various AAA game titles for a monthly subscription rate of $9.99; Sony's PlayStation Now costs $9.99 per month; and Apple's Arcade game subscription service is priced at only $4.99. All of these game service providers share one common characteristic, which is that they all have a game library that will be fully available to subscribers. It has greatly reduced the financial cost for these subscribers to try new games under this business model. And research has shown that players tend to spend more time playing more games that they wouldn't have tried under the one-time purchase premium model. Take Microsoft's Game Pass as an example, the game time increased by 20% and the number of games played increased 40% for Game Pass subscribers. (Ashcroft, 2019). As the subscription model is getting more attention from game companies around the world, the concept of "Game as a service" has been trending within the industry as the next monetization opportunity after in-app purchase. Companies such as EA and Square Enix, found that instead of making one-time profits off of a game's release, they could receive a steady stream of revenue by offering "games as a service". (Ball & Fordham, 2018). Similar to the concept of "Software as a service", "Game as a service" (Gaas) represents providing video games or other forms of game contents on a continuing revenue model. One of the

most significant advantages of “Game as a service” is that the game service providers can build a long-term relationship with the players in terms of continuously adding new game titles to the library and updating new features and contents to existing game titles, as well as constantly improving game experience of the players to maintain the long-term relationship. It could also potentially improve the customer loyalty and user retention for the subscribed players. For the players, one of the downside effects is that they can no longer resell or trade games like they used to under one-time purchase model. Another issue for players is that they might have to subscribe to more than one service provider to get access to all the games they want to play since most of the games in different libraries of different service providers do not overlap with each other and are usually exclusive to their own providers. This might reduce the willingness of the players on trying different games from different game service providers, which may have negative effect on long-term development of the entire industry.

Given the advantages and special nature of the subscription model, is it feasible to transform a premium or freemium based game into a subscription-based game? The answer is uncertain. That being said, every business model and monetization method has its unique characteristics that work the best on different games in different product life time stage. And subscription model might work as the main business model for the trending cloud gaming, which will be further discussed in the discussion section.

Chapter 3: Research Model: ARM Funnel (Fig. 4)

Fig. 4

In this research, in order to conduct exploratory study on how did these Chinese F2P mobile games succeed with their monetization strategies, this framework of the ARM Funnel will be taken as the fundamental structure for the analysis of case studies through three stages for mobile games in chronological order: Acquisition, Retention, and Monetization.

Section 1: Background

The ARM Funnel (as shown in Fig. X), developed by the research company Kontagent, is generally used to describe freemium business model for mobile game industry in particular. (Moreira et al., 2014). Kontagent provides leading mobile analytics solution for social and mobile application developers, marketers, and producers across the world. It was founded in 2007 with headquarter in San Francisco in California in the United States. Based on the presentation made by Kontagent's co-founder and president, Albert Lai in 2011, Kontagent focused on providing a "End to End Social Analytics Platform" to help game developers to increase testing velocity, iterate faster, fasten user growth, and eventually improve profits through optimization on acquisition, conversion, viral, game mechanic, and monetization. (Lai, 2011).

Section 2: Understanding how to apply ARM Funnel framework to mobile games

To breakdown this ARM Funnel and better under how to improve monetization strategy in these three different phases, we should first look at the funnel as a whole. In practical terms, it visualizes mobile gamers of a game passing through a funnel, which is divided into three stages acquisition, retention and monetization, throughout players' lifecycle within the game. Same as how it looks, as players pass through this funnel, the number of players at each stage of the funnel gets smaller. Therefore, it leads to one of the indispensable factors that gives free-to-play mobile games the opportunity to succeed, the continuously incoming new players that keep expanding the player base as much as possible through user acquisition techniques from the game developers. One of the most commonly used method for user acquisition for F2P mobile games is through ad buying, which has been discussed in the advertising section earlier. Besides that, there are also other "Non-Viral User Resources" that are effective for user acquisition such as offer wall, cross promotion, and fan pages, etc.

After acquiring new users and turn them into players of the game, the next awaiting challenge ahead is user retention. It makes sense for game developers to keep thinking about how to keep players engaged and stay with game for as long as possible, which potentially increase the

chance for the players to spend money. This goal might not be easily achieved through normal operational techniques without consistently studying player's behaviors and changes in the market in a long-term basis. Besides trying to increase the "stickiness" of the players to the game, the retention stage also plays an important part in terms of acquiring new players through "Viral User Resources" in examples of streams, invites, dashboard, email, etc. One of the most effective ways to attract new players is to let the existing players spread the words out to non-players, who don't even have to be their familiar ones. A good example will be games collaborating with key-opinion-leaders (KOL) on social media platforms such as YouTube and TikTok, which have a big number of non-players that could potentially be interested in trying the game after maybe watching the gameplay live stream from the Youtubers they like.

As it gets down further into the last stage, monetization, which eventually determinates how much money the game could make, the number of left players becomes even smaller. And these players are typically what we call the paying users in a F2P mobile game. In order to quantify monetization, here comes the concept of average revenue per user (ARPU), which is used for measuring the average revenue that could be contributed by each player in a given period of time. A successful business model requires the user to spend more than the cost of acquiring the user, in which means that the lifetime value (LTV) must be higher than customer acquisition cost (CAC). There are many different ways to calculate the lifetime value (LTV), however, since the average revenue per user (ARPU) is critical and more accessible, we can use this formula to calculate:

LTV = ARPU / Revenue or Customer Churn

All of the theories and formulas of calculations might seem to be straight forward to under, it is a totally different story when game developers try to implement them to acquire and keep the players and make them pay for the game through these three stages. According to the report from app testing firm Swrve, there are three facts that should be aware of by the game developers: (1). Only 2.2% of free-to-play mobile game players have ever paid for the game; (2). About two-thirds of all tracked players who begin playing an F2P mobile game stop playing within one day of starting; (3). 53% of player spending happen within the first seven days after downloading a game. (Sinclair,

2014). Therefore, my exploratory study on how Tencent has conquered these challenges and became the highest grossing F2P mobile game with “Honor of Kings” both in China and in the world will be revealed in the following case study section.

Chapter 4: Case Studies

Fig. 5

4.1 Case Study: “Honor of Kings”

Section 1: Background and Market Performance

“Honor of Kings” (Chinese name is 《王者荣耀》), which has also been called “King of Glory”, is a multiplayer online battle arena (MOBA) F2P mobile game developed by TiMi Studios (a game development studio that belongs to Tencent) and published by Tencent Games in 2015 for iOS and Android mobile platforms in China. The overseas version of the game is called “Arena of Valor” (AoV), which was developed by TiMi Studios and published by Tencent Games as well and released in 2016 globally on iOS and Android mobile platforms, and Nintendo Switch platform. Even though AoV utilizes the same game engine and UI design as “Honor of Kings”, the characters and their corresponding skin design are greatly customized to accommodate the western market. Even though both games have succeeded in terms of popularity and revenue, this case study will focus on analyzing “Honor of Kings” in the Chinese domestic market, which has contributed about 96% of its total global revenue.

One of the decisive reasons for me to pick “Honor of Kings” for this case study is that it has been the one of the most profitable F2P mobile game ever in the history across the world. Based on the data from Statista (see Fig. 5), from 2016 to 2020, the annual revenue of “Honor of Kings” worldwide has increased drastically from 2.21 billion dollars in 2016 to 7.1 billion dollars in 2020, representing over a three-fold increase. (Statista, 2021). The game has also been recorded over 902

million downloads worldwide by May in 2021. Moreover, when third-party research agencies like Statista, Sensor Tower, and App Annie collect data on Chinese market, data from other third-party Android platforms besides Google Play Store is not included. In fact, almost all Android platform's revenue in the Chinese market is from third-party Android channels such as Huawei App Market Store, Oppo Software Store, and MIUI App Store (from XiaoMi), etc. Thus, the real number of total revenue of "Honor of Kings" in the Chinese market might be much bigger than shown in the data. In terms of the size of player base, "Honor of Kings" has crossed 100 million daily active users (DAU) by the end of 2020. (Liao, 2020). As we have discussed when talking about the ARM Funnel in the last section, possession of a large DAU base is one of the critical success factors for the game. And this absolute advantage is tightly linked with game's owner, Tencent Games.

As currently world's largest video game publisher, Tencent, founded in 1998, has established businesses across many different industries including social media, music, e-commerce, payment systems, video games, etc. In the game industry, from outside of the company, Tencent has invested in over 300 game companies worldwide, including Riot Games (with 100% owner stake) who developed one of the most famous and successful MOBA game on PC, "League of Legends" and Epic Games (with 40% owner stake) who created one of the most successful battle royale games Fortnite, and many other famous and successful game companies. From inside the company, Tencent Games is the game publishing division of the Interactive Entertainment Group (IEG) of Tencent. Tencent Games has four internal game studios including TiMi Studios, Lightspeed & Quantum Studio, Morefun Studio, and Aurora Studio. In Tencent's company culture, groups and teams are encouraged to compete against each other through "internal competition" in order to produce the best product that the company could possibly make. Wechat is a good example of the success of Tencent's internal horse racing strategy, and it worked again on "Honor of Kings". In the beginning, both TiMi Studios and Lightspeed & Quantum Studio were given the task to develop a MOBA game that would meet the needs of Chinese players on mobile platform, which was definitely not as popular as it has become today. After winning the internal competition, TiMi Studios started getting full support from Tencent with fund and resources. This is also one of the critical success factors for

"Honor of Kings" especially in its early days.

Section 2: Gameplay

Fig. 6

Source: Youxixiaoqi (2019) (edited by the author)

Just like all MOBA games, the core gameplay of "Honor of Kings" is matching total of 10 players with 5 on each side (blue team and red team), and players can choose their game characters (usually called heroes), which have different roles and skill sets. For those who are not familiar with MOBA games, the most basic rule is that two teams have exactly the same amount of resource and map layout (completely mirroring from each side), therefore the key is how to corporate with teammates and make strategies as the game progresses. The goal of each team is eventually destroying the homebase (marked by stars) of the opponent team. In the typical 5v5 map (see Fig. 6), there are three lanes (top, mid, bottom), and each lane contains three defensing torrents (as circled in blue and red) on each side with continuously appearing minions coming from the homebase. At the beginning, players need to decide who goes to which lane or area typically depending on hero's roles including tank, assassin, mage, archer, support, or a mix of multiple roles. In general, tanks or other melee heroes go to the top lane, mages go to the mid lane, archer or other ranged heroes go to the bottom lane with support, and assassin heroes go to the jungle areas (marked as A1, A2 on blue side and B1, B2 on the red side). Players are the ones who need to decide the specific tactics against the opponents. For example, the assassin hero needs to decide when to kill wild monsters in jungle areas to get gold or to help teammates try to catch opponents by surprise through "gank", which means stealing attack that usually cannot be detected by opponents in advance. The "gank" tactic works well in this game because of the "fog or war", which means one team does not have the view of the locations of the opponents, and the bushes on map provide chance for heroes to hide and approach the enemies secretly without being noticed. The economy system is based on the logic that heroes can get gold through farming (killing minions from opponent side), killing monsters in jungle areas,

and defeating opponent heroes or help teammates defeat opponent heroes. And then heroes can purchase and upgrade their gears to become stronger with improved stats. While getting monetary resource through farming and killing opponent heroes, heroes will also receive battle experience to level up, which will unlock new skills and ability to upgrade skills to higher levels to become stronger against opponents. Besides hero's level, gear, and skill, there is another gameplay element that could potentially give temporary advantage to a team, "buffer" that can boost up the stats of heroes in a team for a short period of time. And these "buffers" can be achieved from killing special monsters in the jungle areas and two boss-level monsters in areas marked with triangles. The core gameplay is to figure out how to win the game through team corporation with fast-adapting strategies to stack up resources, from picking the hero that can best collaborate with teammates' heroes to communicating constantly with teammates, waiting for chance to engage into team fights and defeat opponents. That's why it is impossible to have two games that are completely the same, which is one of the most attractive characteristics of the game for players who enjoy challenging themselves to become more skillful players.

In addition to the main 5v5 game mode of "Honor of Kings", there are many other game modes that are either always available or time-limited available to players, even though the majority of them focus on similar competitive matching. In situations when internet connection is unavailable or unstable, players can play in offline mode with AI robots as opponents. Some beginner-level players prefer to utilize this feature to practice and sharpen their game skill. In general, based on the type of opponents, most game modes can also be categorized into two types: player versus player (PvP) and player versus environment (PvE). In PvP game modes, players can match with random teammates or invite their own friends to team up in 1v1, 3v3, and 5v5 modes. They can also choose to fight against AI robots like in the offline mode to practice. In PvE game modes, where the "environment" here stands for computer-controlled opponents like the AI robot heroes, players can play the adventure and story modes to get to know the background stories of the heroes and world settings, which potentially help create emotional connection between players and the game.

For a competitive matching based game, it is important to provide a relatively professional

match making mechanism to encourage players to keep mastering their game skills and ability to better communicate & corporate with teammates. The “ranked matchmaking” is the PvP game mode in the form of 5v5 that players can bring up their ranking levels by continuously winning games in the “ranked matchmaking” mode. Typically, players can play ranked matched alone (with randomly matched teammates) or team up with another friend or as a whole five-people team against another team. For the ranking levels, there are 7 tiers from bottom to top: bronze, silver, gold, platinum, diamond, ace, king, and high king. When a player has earned enough points to reach the next tier through winning the matches, it will be promoted to the next tier. The higher rank it is, the harder it would become to earn enough points to rank up.

Section 3: Analysis based on ARM Funnel framework

After introducing the main gameplay in the previous section, this section will focus on exploring and analyzing the monetizing strategies of “Honor of Kings” in the ARM Funnel framework, which includes three phases: acquisition, retention, and monetization.

3.1 Acquisition

Like mentioned before, user acquisition is critical for survival especially for free-to-play mobile games since only a tiny percentage of the whole user base actually is expected to have purchasing behavior while most players will not pay at all. The larger user base it has, the more potential paying players it might have from acquisition to monetization phase. The core concept of user acquisition is to figure out how to expand the exposure range and let as many people as possible to know about the game.

One of the most commonly used and effectives user acquisition method is ad buying. In general, there are two types of advertising for mobile game’s ad buying: one is performance advertising, and the other one is brand advertising. The goal of performance advertising is to directly generate revenue for the game. While the goal of brand advertising is to raise brand awareness and establish or enhance brand image. For performance advertising, the influence power and user base

size of the advertising channels/planforms are critical for the ads to perform well. Currently in China, there are so many ad platforms available for mobile games, however, majority of these platforms are owned by the internet giants such as BAT (Baidu, Alibaba, Tencent) and some other raising ones like ByteDance, who owns Douyin (TikTok's original version in Chinese domestic market) and ad platform "Ocean Engine". For a game like "Honor of Kings" that has sufficient financial resources to freely make ad buying strategies based on its needs, it has already started in a leading position with privilege as a Made-in-Tencent product. As a pioneering MOBA mobile game product of Tencent, it would utilize all available resources in the most effective way on acquiring new users for this game, including ad buying from other Tencent's products such as WeChat, QQ, Tencent News, Tencent Videos, and QQ Music, etc. In addition to performance advertising, brand advertising is even more strategically important because it takes much longer to establish an excellent brand image that could help extend the lifetime f the game to be as long-lasting as possible. Content quality of the branding advertising ad is decisive because as players have become much more demanding on the game quality, the first impression from people usually comes from the ad content, not the actual game. Therefore, ensuring the ad content to be as high-quality and attractive as possible is significant as well in order succeed in the acquisition phase.

3.2 Retention

After acquiring new users to become players of the game, the next challenge is to keep them actively engaged and try to avoid losing players along the way. Typically, user retention strategies are implemented through in-game operational means such as consistently sending free rewards to players, keep updating the game with new contents, features, game modes, and develop progression system that encourages players to maintain high level of engagement. As a free-to-play mobile game, players are always pleased when receiving any type of free rewards as a way of acquiring additional game content without spending real money. And some free rewards like discount tickets are so delicately designed that players can only use when purchasing items like skins of heroes. This "trick" might not work every time but when an unpaid player receives the discount

ticket as he or she has a long-time wanted skin in mind, this skin might become the first in-app purchase this player makes in the game. More importantly, F2P mobile games have to keep updating with new contents including new heroes, skins, maps, play modes, and time-limited or holiday events to keep players interested and proactively engaged in the game and gradually increase their loyalty to the game. “Honor of Kings” has been really good at constantly providing refreshing contents and features to the players, as well as corresponding special tasks, rewards, and skins on sale during traditional Chinese holidays such as Lunar Chinese New Year and the Moon Festival, etc. In terms of gameplay innovation, this game has always been developing new game modes that are more entertaining than the traditional match types so that even casual players can enjoy the game with their family and friends. Additionally, to avoid situations where new players are discouraged to keep playing if they think the game is too difficult to play, the game has simplified the operation actions comparing to many other mid-core or hard-core MOBA games. As for developing progression system to encourage players to spend more time on the game, this game has come out with so many different progression systems that are co-existing with each other. Daily event system guides players to complete daily tasks such as “completing three matches today in any game mode” and “watching others play for longer than 10 minutes”, etc. During special event periods, the game will have higher level of engagement required events that players can receive valuable rewards (such as limited time available special skill of a hero) after completing a series of tasks (see Appendix C). The last important point is to

Besides keeping existing players around and engaged, another important task of the retention phase is to expand game’s influence power to non-players. This part is related to the “Viral User Sources” in the ARM Funnel framework that. The develop team of the game can reach out to a wider range of audience that potentially could transform from non-player to player, expanding the user base in a virtuous circle. In practice, reaching out to non-players goes beyond “word of mouth” to more effective ways such as online live streaming, offline community events, and cross promotions that breaks out from gaming industry to other industries to approach a wide range of audience. For example, as live streaming has become so popular worldwide, “Honor of Kings” definitely has also

seized the opportunity to utilize multiple famous live streaming platforms such as Douyu, Huya, Douyin, Kuaishou, Bilibili, in which most of them have partnership with or are partially owned by Tencent. These live streaming platforms have also played essential roles in promoting the E-sports of "Honor of Kings" through broadcasting championships including KPL, TGA, and QGC, etc. And just like how the extremely popular MOBA game on PC, League of Legends has been utilizing E-sports events to enhance influence on non-players of the game, "Honor of Kings" took the same path. The marketing team of "Honor of Kings" has also initiated discussions on Weibo (micro-blog platform in China) to create trending hot topics about the game. Overall, "Honor of Kings" has been doing excellent job on keeping existing players engaged while utilizing network effects on trending live streaming and social media platforms to expand influence to reach out to non-players and potentially acquire them as new players.

3.3 Monetization

In the last and most important phase for the game, the key challenge for the develop team of "Honor of Kings" is how to make monetization strategies in order to effectively generate revenue, which is the ultimate goal of running any business. This section will explore and analyze this game's monetization strategies on a hybrid model with the mixture of advertising and in-app purchase.

The monetization strategies of "Honor of Kings" on advertising have not been exactly the same through game's lifecycle. Before it was officially launched in November 2015, based on the conversation I had with a friend of mine who used to be in a team from TiMi Studios that was involved in game's marketing and operations, the game had already started pre-heating couple month before it was officially released to the public through ad buying activities and other marketing measures. In the early time period when the game was released just yet, TiMi Studio's ad buying strategy was quite straight forward that most of the ad exchange channels and networks were inputted heavily. It means during that period of time, it was hard for anyone to not have seen the ads of "Honor of Kings" for at least once. After the number of daily active users (DAU) has increased to a certain level, the team changed ad buying strategy to keep investing in the major ad exchange

platforms that have been performance really well but not as aggressive as in the beginning period to make sure that the game could stably acquire new players without overspending on budget of advertising. Even though advertising still contributes to revenue of "Honor of Kings" as of today, the biggest share of revenue comes from in-app purchase.

To analyze the monetization strategies of this game on designing and promoting in-app purchase, we must first understand the economy system of the game.

Fig. 7 (Source: screenshot taken by the author, 2021)

As shown in the top middle area of the screenshot of the homepage in "Honor of Kings" (Fig. 7), there are three types of currencies in this game, including Gold, Diamond, and Purchase Point (PP). Gold is the most common in-game currency that can be received from completing game matches, daily tasks, and adventure mode (PvE). The difficulty level of getting Gold is the lowest comparing to the other two types. And Gold can only be used for unlocking (purchasing) heroes and making lucky draws to get Runes that can provide a little boost up effect on heroes. The next type of currency is called Diamonds, which can be received by completing daily and weekly tasks, unlocking achievements, and special activities. Diamonds are typically used for unlocking specific heroes and making special lucky draws in "Diamond Raiders", which contains mid-level rare items including exclusive hero skins. Lastly, the most important currency is called Purchase Point (PP), which has the highest rarity that can only be received through in-app purchase. As shown in the picture (Fig. 8), the exchange rate is that 10 PP costs 1 RMB (100 JPY = 5.8 RMB). The price of a skin of hero typically ranges from 230 to 2888 PP (about 400 to 5000 JPY). And sales of hero skins have actually contributed the biggest share of revenue in total. Why would people keep spending real money purchasing these skins? The answer is simple that in addition to the high-quality design of these 2D pictures and 3D models of the skins, majority of these heroes & skins were either designed based on traditional Chinese heroes and legends such as Lu Bu (呂布) and Zhao Yun (趙雲) or showing characteristics of traditional Chinese culture (see Appendix D). These hero and skin designs fit the taste of the Chinese players really well, especially for the female players that are almost half

of all players. For monetization strategy made on progression system, this game provides “battle pass” that unlock rewarding items at each level by phases. Players have the option to upgrade to the elite version, which contains rarer rewarding items that are exclusive to the upgraded version of “battle pass”. In the picture (Fig. 8), there is also a golden crown-shaped icon with “8” in the middle. It represents level 8 in the “loyalty system” that ranks up from Lv1 to Lv10 as the player spends more money on in-app purchase. Interestingly, the “loyalty system” is a good example illustrating the most important and essential characteristics of this game, which is heavily emphasizing on “socialization properties”.

Figure 8

The real power of “socialization properties” is so strong that I would say this the core factor that has made “Honor of Kings” the most successful and well-known mobile game in China ever. “Socialization properties” means that this game has become a social platform that players can play matches with familiar friends and family, and also socialize to make new friends and establish relationships inside the game itself. This achievement is inseparable from its parent company Tencent, which owns WeChat and QQ, two of the most commonly used communication platforms in China. When a new user first entered the game, it would sign in through either WeChat or QQ if not as a visitor. In this way, the player can easily find friends from WeChat or QQ and invite them to play together. Moreover, “socialization properties” also have greatly stimulated in-app purchase, in particular on skins. The feature of purchasing and sending skins to a friend in game or in real life has become a popular and favored way of enhancing friendship or expressing love among the players. And the last impact of “socialization properties” is through personalized cosmetic contents including icons, icon frames, emojis, titles, and the “loyalty system” levels, etc. Many players are eager to express either their uniqueness or mastered gameplay skills to others through these cosmetic contents with personalized special effects. Since most of these contents are not achievable without spending money through in-app purchase, these players are willing to pay for this type of cosmetic

contents that have no gameplay balance related effects. It is vital for any competitive matchmaking game to maintain an absolutely fair gameplay balance between two opposing teams, and no monetization strategy should ever be based on giving any advantage to a player over the other players. This principle shall never be challenged if any MOBA or any other fair-competition based games want to survive, no matter in the market of which country or area.

Even though revenue is eventually all that matters, maintaining a well-established brand image and create a sustainable and long-lasting relationship with the players are both critical for the game to keep operating for as longer and profitable as possible, for at least three to five years in general. “Honor of Kings” has passed its 5-year-old birthday and soon will turn six in this coming November in 2021. And the legend is still going on.

Chapter 5: Discussion

5.1 Regulatory Policies and Restrictions

Chinese video game market has always been a “sweat spot” for game developer and publishers worldwide because of huge population of players and rapidly increasing spending power of video game players in China. That being said, it’s also a market that plenty of global game developers and publishers have failed to enter or succeed if they could not understand or follow the Chinese regulatory policies and restrictions. I want to bring discussion on this question: How to evaluate China’s regulation on “loot box” to expand transparency?

In December 2016, Ministry of Culture in China announced new regulation to force all game companies to provide specific probabilities and drop rates of the “loot box” lucky draw system. Like Japan, instead of focusing on the gambling-like mechanics, Chinese regulators looked at the unknown probability side as the key issue. In addition, the regulators also require game publishers to keep a record of the probability rates for 90 days. (NeoGAF, 2016). From game player’s perspective, these regulatory policies have positive effects on the entire gaming industry for sure because from then, the “loot box” based fraud games that have been stealing money from players without any actual gameplay design would be eliminated from the market for good. However, as for the game

experience on “loot box” lucky draws of players, it didn’t actually increase the probabilities of getting what they want. This is the reason why so many F2P mobile games could still profit well through in-app purchase on “loot boxes”. At least now, most games that have the “loot box” system have implemented the minimum guaranteed mechanism to stop players from irrationally overspending on in-app purchase (like one guaranteed final prize for every hundred draws from the “loot box”.)

The purpose of having these regulatory policies and restrictions has always been to protect the legitimate rights and interests of the players from illegal activities covered by video games or unfair competition that might hard the development of the industry in long-term. In fact, a large portion of these policies and restrictions were made for children or under-age protection including no real blood, or dead people, or skeletons, or over-naked type of image allowed in any type of game content, as well as the anti-addiction system and the parent control system that were designed for the health of children who might not have the independent judgement yet. However, regulatory policies and restrictions are only effective to an extent, and guidance for children should be more focused on family and school education. And the rating system based on age has not been mature yet in Chinese video game industry, and it would be beneficial for both adult users and children if the system could be maturely developed in the future.

5.2 Effect of IDFA：

Nowadays, people have growth awareness of what and how would their personal information related data be collected by the Internet businesses. In the mobile app/game world, one of the most influential changes that might potentially affect the digital advertising industry would be the changes of IDFA made by Apple. In June 2020, as Apple officially released the iOS 14, which has stopped mobile app and game developers to get access to user data without the consent from user directly through IDFA, which stands for “identifier for advertisers”. In the past, mobile users could receive targeted ads and personalized information through the IDFA, which had been using by advertisers to identify who the user is with demographic information.

This change means that all of device-level personalized targeted ads will not work anymore if users choose to opt-out of sharing their IDFAs. Therefore, if an iPhone user has chosen not to opt-in to share IDFA with developers, it will not receive any personalized ads that are more likely to be irrelevant to him or her now. The losing ability of targeting at specific type of users is expected to have negative effect on user acquisition through ad buying for mobile games since the ads might not be sent to those who are more likely to be interested anymore. Therefore, since it has become harder to optimize and profit from performance advertising for game developers, it is expected to see user acquisition cost to drop, at least before there are better ways to conduct detailed targeting advertising.

Although this change on IDFA has had huge impact on the advertising and other related industries, it might also provide an opportunity for advertisers and mobile game and app developers to take a step back, and innovate on how to reach out to users more effectively without encroaching on the legitimate rights of users on privacy protection.

Chapter 6. Limitation of the Research and Future Studies

In conclusion, this exploratory student has focused on studying and analyzing how Chinese free-to-play mobile games make effective monetization strategies through the case study of the most successful and famous Chinese MOBA mobile game “Honor of Kings” from Tencent. Nowadays, most free-to-play mobile games has taken a hybrid business model that generate profits through advertising and in-app purchase, and “Honor of Kings” has taken the similar approach. However, even though as a “made-in-Tencent” game produced by the very experienced and resourceful TiMi Studios, “Honor of Kings” was not “born with a silver spoon in the mouth” but rather won the internal competition against Lightspeed & Quantum Studio, which is also a great game studio of Tencent. The game has been challenged and tested by the public with outstanding high-quality contents plus comprehensive understanding on what the Chinese MOBA players on mobile platform were expecting. In terms of monetization system design of the game, the core was designed around the “socialization properties” that has fully excavated the potential business value

from a huge user base with incomparable daily active user (DAU) number that was largely contributed by Chinese player population and effective brand advertising and marketing techniques. More importantly, none of the monetization strategies has been made on giving competitive advantage over other players through in-app purchase, but only on cosmetic contents or progression system. This game is a representative example of making successful monetization strategies without heavily relying on the "loot box" lucky draw system that has been controversial for quite a while.

As for the limitation of this research study, there are two main issues. Firstly, there is no best set of monetization strategies that works for any free-to-play mobile game in the world. Therefore, this study can only provide some insights through exploring and analyzing the decisive factors on how the game has shaped and polished its monetization system design overtime. The second issue is that "Honor of Kings" is a game made by a good game studio in a big company, thus, some of the success factors might not be as meaningful for those game developers or studios from small and medium sized companies. Therefore, I'd like to continue to study on more raising smaller sized game companies in China, and many of them have been proved to have the capability to produce a good game and operate well, such as MiHoYo (producing company of "Genshin Impact" and Lilith Games (producing company of "AFK Arena" and "Rise of Kingdoms").

For future studies, currently I have two main directions in mind. The first one is about innovation on adverting for games, including In-Game Product Placement and Audio Ads. In-game product placement can be an innovative way for games to insert marketing measures such as putting brand image of a milk brand to help the brand raise brand awareness. And even though audio ad has been existing for a while, innovative advertisers have found a better way to put audio ads into mobile games, like the audio ads can be inserted into the original BGM (background music) of the game while player is playing without interfering the game experience. I think innovation on more methods of advertising and in-app purchases can potentially help game developers make more flexible and effective monetization strategies.

Appendix

Appendix A: Real-Time Bidding Process

Source: Brakenhoff and Spruit (2017)

Appendix B: “Skinner Box”

Source: Mcleod, S. (2018, January 28). Skinner - Operant Conditioning.

Appendix C:

2020 Chinese Lunar New Year’s Special Event: Beat the monster of “Nian(年)”to receive special rewards of hero and skin

Source: 3DMGAME (2020)

Appendix D:

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