GAMING SECTOR

PLAY TO WIN – UNDERSTANDING THE INVESTMENT FUNDAMENTALS OF THE MOBILE GAMING SECTOR

By Alan Lok, CFA; Eunice Chu, ACCA; Guruprasad Jambunathan, FRM, and Chan Fook Leong, CFA

Here's a game you can play – the next time you're out, whether on the train or waiting in line at your favourite coffee spot, look around and count the number of people tapping and swiping on their smartphones as they gaze blankly at the latest mobile game filling their screens. Does it surprise you to see how ubiquitous mobile gaming has become?

Mobile games have been around for quite a while – 25 years, in fact. Leading the market back then was something called Tetris, which you could only play it on an electronic brick called the Hagenuk MT-2000 (we had to Google it too). Three years later, Nokia preinstalled the hugely popular Snake on its devices – a watershed moment for the market. The launch of Apple's App Store in 2008 was another turning point, as it heralded the dawn of today's app-based mobile gaming era, which has led to a global industry worth billions of dollars.

A GROWING MULTIBILLION-DOLLAR JUGGERNAUT

If your preferred recreational mental challenges are restricted to the occasional newspaper crossword or a well-thumbed Sudoku book, then hearing that the global mobile gaming industry will be worth US$68.5 billion by the end of 2019 (and forecast to hit US$95.4 billion in 2022) might come as a bit of a surprise. That is until you realise that there are an estimated 2.4 billion gamers—over 30% of the world's population. That's a lot of people with double chins and sore thumbs.

Such huge numbers can be attributed to several factors. One primary aspect is the sheer accessibility of mobile games. This is thanks to the rise of smartphone usage and low-cost, high-speed mobile bandwidth. They are also, for the most part, free to play, further lowering consumers' barriers to entry and giving rise to an age of hyper-casual gaming.

Another factor is the nature of the market itself – a fast-paced environment where the cream quickly rises to the top. Mobile games' shorter build cycles relative to personal computers or console offerings, plus a structure that allows the passive collection of large amounts of real-time feedback (big data), combine to create a situation where developers can rapidly iterate to bring new or improved versions to the market.

However, this accessibility also begs the question – since most mobile games are free to play, how does this equate to tens of billions of dollars in value?

A FREEMIUM BUSINESS MODEL WITH A FEW BIG SPENDERS

It is true that most mobile gamers—at least 95%, according to some estimates—will never spend a cent on their amusements. But even such 'freeloaders' can be monetised using the most common strategy on the Internet – advertising. The percentage of revenues derived from advertising vary from game to game, particularly the type of offering, but general estimates put it at 30 to 50%. And although only an estimated 2.8% of participants are classified as 'big spenders', that is still over 50 million people according to leading games and esports analysts Newzoo.

As such, even this small slice of users is enough to make direct spending on mobile games translate to 74% of consumer app outlay. While some games require direct purchase or monthly subscriptions to play, most of this spending comes from in-app purchases which allow players to heighten their in-game experience through devices such as extra lives and other similar boosts. This freemium model has been enabled by tremendous improvements in encryption protocols which now make online monetary transactions both convenient and secure.

The business model is also adapting to the rise of esports. Previously limited to primarily personal computers, mobile games are now entering the fast-growing billion-dollar esports market. One example is Clash Royale, not only the mobile gaming world's top performer but one that has made a dramatic entrance into the esports arena with its successful tournaments and league features.

LEARNING HOW TO PLAY THE INVESTMENT GAME

The numbers don't lie – mobile gaming represents a huge and growing opportunity for investors. The challenge lies in separating the performers from the non-performers – it is a crowded and hyper-competitive market where the winners reap the lion's share of the rewards while for the losers, it's unfortunately 'game over' (for context, there are well over a million mobile games on the App Store and Google Play Store combined).

With that background information in mind, let's move on to understanding how to analyse a mobile gaming business structurally.

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DEFINING THE COMPANY'S OFFERINGS

The first step is to establish the scope of its product and service offerings. Explore whether the company purely offers game apps or whether it is more diversified with non-game apps as well. From there, dissect its offerings further by both supported platforms and operating systems. Investigate the number of languages provided on user interfaces—this will give you a glimpse into its geographical strategy.

That level of segmentation is merely the beginning. You'll need to place the apps themselves into their own categories such as action, strategy, or puzzles for game apps and entertainment, fitness, dating, and the like for non-game apps. Even within these categories, you can always drill down further. Look at whether its offerings are single or multiplayer, and if they provide online communities or social media integration.

NICHE OPERATORS

As mentioned, this market is global, crowded, and ultra-competitive. But that doesn't mean there aren't any sub niches where lesser-known games can be profitable. Study the company's user base to get a more detailed picture of its customer demographic – which countries are they from and what languages do they speak? Is the business targeting a global audience or something more specific? Some games may also be more select not in the geographical sense, but in terms of their hardware requirements.

Once you have a clearer image of the firm's markets, analyse the competitive dynamics. Key data points to seek out include the top games in said space by number of installs, estimated usage levels, and unique points of differentiation. For the last point, one thing that will easily stand out is specific licensing, e.g. the use of characters from popular movies and TV shows.

GENERATING INTEREST

Mobile games compete squarely in the attention economy, meaning marketing and advertising play crucial roles in a game's success, particularly in its initial stages. When a game hits a critical point in terms of popularity, a positive feedback loop is created where new players participate simply because they have heard how popular it is. Features like public rankings and social media integrations can amplify this effect.

Therefore, review the effectiveness of the company's marketing channels. Is it purely advertising, or are there referral incentives as well? What has been the firm's return on every marketing dollar spent – how do its user acquisition costs compare to its peers?

While marketing goes a long way, the product itself is also obviously important. Dive deeper into its development and innovation strategies. Are updates addressing bugs and other performance issues being quickly released? What about new features and other enhancements – is the company launching those on a regular basis? Without those, even popular games can quickly become obsolete – in a market where switching costs are practically non-existent, a strategy for tackling obsolescence and keeping things fresh is paramount.

UNDERSTANDING MONETISATION

The next step is to examine monetisation methods – how exactly is the company making its money? Begin by looking at its end-customers. Are its products directed to end-users, or are they licensing them as white label offerings to third parties?

If it is primarily a direct offering to consumers, then scrutinise how it charges for its products – free, freemium, paid with free trial periods, or paid? Make sure you get a comprehensive overview of all its revenue models, from subscriptions and advertising to licensing and sponsorships and even offline revenue streams like merchandising and events. The data harvested by the apps are themselves valuable – beyond providing aggregate insights, it could also be potentially licensed or sold.

GAUGING FINANCIAL AND OPERATIONAL METRICS

Games may be frivolous, but a careful study of a company's financial and operational metrics is anything but. When you examine standard financial measures such as revenue, EBITDA, EBIT, and net margins, compare it with the growth in its user base – has the firm successfully used data analytics to increase its revenue per customer? Don't forget to also break down these figures by individual product, geographical market, and monetisation method, and then assess the trends in each area.

On the cost structure side, pay attention to R&D, marketing, staff, and distribution costs (e.g. commission charged by the App Store). Are there any components where the company may be either outperforming or lagging its peers (such as user acquisition fees)?

From an operational perspective, inquire into its user behaviour is key. While top-line data, such as the number of installs and growth in new users, are certainly important, make sure to also delve into retention metrics like the proportion of active versus inactive users, average time spent on the app, and the time taken for users to go from active to inactive. Check whether any strategies exist to convert dormant users back into functioning ones and if so, review their effectiveness.

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ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG)

The main ESG issue concerning the industry is addiction. Mobile games can be highly enslaving, particularly among the vulnerable. Further, their addictive nature is rarely a bug, but often a deliberate feature. Many of the aspects that hook people to mobile games, such as intermittent rewards, are conceptually no different from those used in the casino industry. However, unlike the latter, there are few restrictions in targeting underaged consumers.

Therefore, when probing into ESG factors, find out whether the company or its games have come under any scrutiny or accusations over potential user addiction. See how the company plans to address such issues or if they restrict the usage of their games by age. The problem of mobile games addiction also ties into this new age of constant connectedness – social media addiction is another similar and arguably larger societal challenge.

THE LONG-TERM FUTURE OF MOBILE GAMES

Consumers are fickle, and the mobile games market itself changes rapidly. As such, it can be challenging to gauge the long-term prospects of a company or game. However, some things you can still study to provide yourself more insight on long-term trends include a firm's expansion plans into less saturated markets, e.g. those with lower per capita gaming app usage and spending. Its product innovation strategy can also reveal insights as to how the company might perform over the longer term.

That's the micro perspective. On the macro side, it's clear that mobile games aren't going anywhere. As our smartphones become more powerful, the variety of mobile games will only expand.

You don't have to play mobile games to see the opportunities in this sector. Use this framework as your guide for future analysis of this lucrative industry – why bother with in-game rewards when you can play the investment game and earn real dollars instead?

ABOUT THE AUTHORS

Alan Lok, CFA, is the Director, Society Advocacy Engagement, of CFA Institute. Mr Lok researches and writes on investor-protection issues and capital-market structure. He recently co-authored a research paper on capital-market integrity entitled "Portfolio Pumping in Singapore: Myth or Reality". Mr. Lok has more than 10 years of equity research experience, spanning various industries and sectors.

Eunice Chu is an ACCA-qualified finance professional. She was a regional finance director of a Fortune 500 multinational corporation and presently heads the policy function of ACCA Hong Kong.

Guruprasad Jambunathan, FRM, is a Director for Financial Research at CRISIL, a global analytical company. He has over 12 years of experience in equity research and works closely with a broad clientele of buy-side and sell-side firms, as well as with academic think tanks across various continents.

Chan Fook Leong, CFA, is the Executive Director, Advocacy, at CFA Society Singapore. He writes and researches on ethical issues, market integrity, financial literacy and investor protection topics.

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01 DEMAND DRIVERS

- Types of games offered
- Data-driven marketing
- Number of current users
- Business model/cost
- Development and innovation strategy
- Existence of unique mechanisms
- Hardware requirements
- Platform compatibility

05 ESG FACTORS

- Prevention measures against underage spending
- Mobile game addiction accusations
- Gambling-industry techniques
- Data protection and privacy

SECTOR ANALYSIS
Mobile Gaming industry

02 MARKET POSITION

- Market saturation
- Competitor market share
- Proprietary technology
- Incumbent advantage
- End-customer demographics

04 GAUGING PERFORMANCE

- Revenue, EBITDA, & net margins vs. user growth
- Revenue per customer
- Marketing and development costs vs. peers
- Commission costs from App Store/Google Play
- Customer retention statistics
- Active vs. inactive users

03 STRUCTURAL INFLUENCES

- Expansion into less-saturated markets
- Smartphone penetration rates
- High-speed mobile data coverage rates
- Disposal income levels
- Per-capita game usage and spending

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COMMON TO THE SECTOR

1. **DD: WHAT ARE THE DIFFERENT PRODUCTS AND SERVICES OFFERED BY THE COMPANY?**
   a. What are the types of products offered: games vs non-game apps?
   b. For which platforms are these products offered: desktop website, mobile website, mobile app, tablet app?
   c. In case of mobile, which are the operating systems supported: iOS, Android, Windows?
   d. In which languages are the user interface of these products provided?
   e. Are these products being offered directly to end users?
   f. Are the products and services licensed as a white label offering to third parties?

2. **DD: WHAT ARE THE DETAILS OF THE COMPANY'S GAMING PRODUCTS?**
   a. What are the categories of games offered: action, strategy, virtual worlds, sport, skill development and learning, puzzles, virtual/augmented reality based etc.?
   b. Does the company develop and sell games based on movies, novels, real or fictional personalities, organisations or incidents?
   c. Are the products single- or multi-user games?
   d. Does the company offer online communities and social media integration for the users to interact and engage with fellow gamers?

3. **DD: HOW DOES THE COMPANY'S NON-GAMING PROFILE PAN OUT?**
   a. What are the types of apps offered by the company: tools and utilities, health and fitness, media and entertainment, personal and dating, learning and reference, device management and enhancement, travel and navigation, finance and budgeting, office and collaboration, social media and networking etc.?
   b. Are there any other service offerings in the pipeline?
   c. What is the extent of usage of the various apps currently? How is the usage evolving?

4. **DD: WHAT IS THE PROFILE OF THE USERS OF THE COMPANY'S PRODUCTS?**
   a. What is the estimated size and demographic profile of the company's potential customer base?
   b. How is the user base spread across regions and countries?
   c. What are languages spoken by them?

5. **DD: IS DATA USAGE HARVESTED AND MONETISED?**
   a. What are the different data points collected by the company's through its products?
   b. What are the different ways in which data is used and monetised?
   c. Does the company use this data exclusively for its own purposes?
   d. Does the company provide aggregate insights to third parties or sell/license raw data to third parties?

6. **DD: HOW IS THE REVENUE MODEL OF THE COMPANY STRUCTURED?**
   a. How are the company's products charged: free, paid, paid with free trial period, freemium (basic features are given free and additional features are charged)?
   b. Are paid products sold on a one-time payment basis or on a periodic subscription basis?
   c. Are products being offered at a single price point or at multiple price points with different sets of features?
   d. What are the company's revenue streams: app sales, licensing, subscriptions, advertising, and sponsorships?
   e. What is the share of revenue derived from offline streams: merchandising, events?
   f. What is the share of revenue from monetisation of harvested usage data?
   g. What is the geographic and currency mix of revenue?

7. **SI: WHAT ARE THE MACROECONOMIC FACTORS THAT ARE EXPECTED TO DRIVE BUSINESS FOR THE COMPANY?**
   a. Are the company's products tailored for any specific geographies or designed for a global audience?
   b. What is the demographic profile (age, socio-economic category) of users in the company's key markets?
   c. How prevalent is the gaming culture in the key markets?
   d. What is the per capita gaming and app usage and spend in the company's target demographic?
   e. How quickly does the population in the key markets adopt new technologies?

8. **SI: WHAT IS THE LEVEL OF INTERNET AND MOBILE PENETRATION IN THE KEY MARKETS? HOW ARE THESE EXPECTED TO EVOLVE?**
   a. What are the penetration levels of computers, Internet, smartphones and data usage in the key markets?
   b. What is the per capita usage of Internet in terms of duration of use and amount of data?
   c. How does the cost of computers, Internet, smartphones and data compare with per capita income levels?

9. **MP: WHAT IS THE LEVEL OF COMPETITION AND MARKET CONCENTRATION FOR THE COMPANY'S PRODUCTS?**
   a. What is the share of Top 3 players in terms of game/app installs, number of total/active users, usage levels and revenue in the domain operated by the company? Does it vary across the company's individual products or revenue streams?
   b. What is the estimated number of the company's users also using competing products?
   c. What is the estimated number of competing products a customer typically uses?
   d. What are the factors that make a customer to choose the company's products over the competitors?

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10. MP: WHAT ARE THE BARRIERS FOR OTHER PROVIDERS TO LAUNCH COMPETING PRODUCTS?

a. How does the feature set of the company's products compare with that of competing products?

b. Is there any product feature or benefit that is difficult to replicate?

c. Are the products based on any patents, trademarks, intellectual property or any proprietary technology offering the company a competitive advantage?

d. How much advantage does the network endows on the incumbents and acts as an entry barrier?

11. MP: WHAT IS THE MARKET POSITIONING OF THE COMPANY'S PRODUCTS?

a. What is the value proposition offered by the company and its products?

b. Do the products help realise a hitherto absent need?

c. Do the products solve, improve, substitute or replace any needs in the market?

d. Do they fill any gaps that existing products do not address?

12. MP: HOW DOES THE COMPANY'S SERVICE COMPARE WITH COMPETITION ON EASE AND COST OF ACCESS AND USAGE?

a. Are the company's products compatible with all the major platforms currently in use?

b. What are hardware requirements of devices for using the company's products?

c. What is the speed of Internet connectivity required for the products to function as intended?

d. How much data does the company's products typically use?

e. Are the products designed to work in budget devices with relatively lower-end hardware specifications and slower data connections?

f. Do the products provide multi-device, cross-platform (desktop, mobile) and cross-OS (Android, iOS, Windows) support, synchronisation and integration?

g. Are tools being provided for users to easily migrate the company's products to new devices, within the same platform and to new platforms?

13. MP: HOW STICKY IS THE CUSTOMER USAGE OF THE COMPANY'S PRODUCT?

a. What is the share of users which continue using the products after installation and activation?

b. How is the retention rate after milestone timelines such as a month, quarter and year?

c. How does the typical usage frequency and duration of use evolve after these milestones?

d. What strategies does the company employ to improve customer retention and stickiness?

14. PM: HOW HAS THE COMPANY PERFORMED ON OPERATIONAL MEASURES? HOW DOES THE PERFORMANCE COMPARE WITH PEERS AND HOW IS IT EXPECTED TO EVOLVE?

a. What has been the growth rate in usage of the company's products in terms of installs, total users, active users and usage levels?

b. What is the split of growth in usage levels between usage by new users and incremental usage by existing users (active for more than a year)?

c. How have typical usage frequency and duration evolved?

15. PM: HOW HAS THE COMPANY PERFORMED ON FINANCIAL MEASURES? HOW DOES THE PERFORMANCE COMPARE WITH PEERS AND HOW IS IT EXPECTED TO EVOLVE?

a. What are the trends in revenue growth from different streams? What is the breakdown by volume growth and price change?

b. What are the major components of the company's cost structure?

c. What is the company's research and development cost as a percentage of total costs and revenue?

d. How much is spent on advertising and promotion?

e. What is the staff cost as a percentage of total cost and revenue?

f. What is the revenue earned per employee?

g. What is the company's distribution cost? What is the rate of commission charged by major distributors such as Apple's App Store and Google Play?

16. PM: HOW DOES THE COMPANY ADVERTISES AND PROMOTE ITS PRODUCTS?

a. What are the channels employed?

b. Which channels are the most efficient and effective?

c. Is there a referral programme to encourage existing users to bring in new users?

17. PM: HOW SUCCESSFUL HAS THE COMPANY BEEN IN MONETISING ITS USER BASE?

a. How does the growth in customer base and usage compare with revenue?

b. What are the company's EBITDA, EBIT and net margins? How has it developed over the past few years?

c. How does the company use data analytics to improve customer experience, engagement and monetisation?

18. PM: WHAT IS THE COMPANY'S PRODUCT DEVELOPMENT, MAINTENANCE AND INNOVATION STRATEGY?

a. How frequently are product updates released?

b. How soon are bug fixes and performance improvements issued?

c. At what frequency are feature additions and enhancements released?

d. How are changing user preferences tracked?

e. How does the company ensure it continues to innovate as an organisation?

f. How does the company manage product obsolescence?

g. How big is the product development team? What are their skill sets and achievements?

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19. **PM: WHAT IS THE PROPORTION OF INACTIVE USER BASE?**
    a. After how long do users typically become inactive?
    b. Does the company actively look to understand why users stop using the company's products?
    c. Is there any strategy to get users to restart using the company's product again?

20. **PM: HOW IS THE DATA AND PRIVACY OF THE COMPANY'S CUSTOMERS AND MERCHANTS PROTECTED?**
    a. What data points about the users does the company captures and stores?
    b. What are the efforts taken to educate users about the company's policies and practices on data harvesting, usage and privacy?
    c. Have there been instances of loss/theft of data or attempts to sabotage/breach the company's systems?
    d. What are the measures practised to prevent, detect and avoid cyber sabotage of and through the company's apps and services?
    e. How are payments disputed by the customer dealt with?
    f. How are fraudulent transactions prevented, detected and managed?

21. **ESG: DOES THE COMPANY'S PRODUCTS FACE SCRUTINY OVER USER ADDICTION OR ABUSE?**
    a. Are the company's or competing products facing accusations of causing user addiction towards them?
    b. How does the company plan to respond to this issue?
    c. Are children permitted to use the company's apps and services?
    d. If children are not allowed, how is the age criteria of users established?
    e. If children are allowed, is adult supervision and/or guidance required for them to use the apps?
    f. What are the steps taken to ensure the company's products are not misused to bully, lure, defraud or abuse users? Specifically, how does the company ensure children using the products are not victimised?