Investigating deception and the impacts on online game players’ choice in China

Mujie Zhao and Dimple R Thadani
University of Nottingham Ningbo China, China

Abstract
This article aims to present and analyse the relationship between online game companies and players under four types of deceptions in Chinese game market: mechanism imitation, direct rip off, top-up enticement and negative marketing. The main purpose of this article was to understand how deception affects players’ decision and which type of player is ‘sensitive’ when deception happened. There are 356 valid survey results about attitude to deception collected from players on social network. MGPM* model is used as the data analysis method. Analysis revealed that top-up enticement reduces players’ motivation at highest extent. Players motivated by ‘derivative motivation’ are sensitive and more tend to quit game than those motivated by ‘general motivation’. This research indicates if game company figured out player group structure, when facing survival problem, it can adjust operation strategy by adding deceptions with innocuous effect to players’ motivation to cut operational cost. Meanwhile, the research supplied supporting evidence saying leading companies in game industry should adjust its strategy, changing cognition to growth, reducing deception separation among players and operating from the industrial health perspective.

Keywords
China, consumer behaviour, deception, Internet, management, online game

Introduction
Online game industry in China experienced a dramatic development since Tencent published smart phone MOBA game (Multiplayer Online Battle Arena game) Arena of Valor in 2016. The boosting
of the number of users in the online game industry turned the industry into a high cash valuable industry in a short period. China Securities Chen’s (2019a) research report to Tencent stated mobile phone game has taken RMB 21.2 billion to the company in first quarter of 2019. NTES earned RMB 16.8 billion in third quarter of 2018 from game (Chen, 2019b). Industrial research report by Teng (2019) from Shanghai Securities claimed, in 2018, the total revenue from China game industry has reached RMB 214.43 billion and users’ accounts have reached 626 million. It is predictable that online game industry in China will experience a continuous expansion with higher profit period in recent years (Tao, 2019). High market value attracted concern from capital market. Although market value has been growing in the past few years, studies to Chinese game industry remain a very underdeveloped subfield (Chew, 2019). Game is still young in China compared with traditional industries (Chew, 2019). As emerging cultural entertainment product business, to make long-term sustainable profit from the market companies should realize, understand, and follow the operational rules of industry distinguishing with other industries.

There are a number of cases where companies got into trouble when they do not comprehend the game business rules. Taking Tencent as example, in 2011, Tencent took Chinese area agency right of *League of Legends* (LOL) which became the most famous online e-sports game in future years. However, when the game published its promotional video, there were a large number of censures against the game from players who claimed that it is a mechanism simulation to *Defense of the Ancients* (DOTA). Although Tencent itself clearly knew that the game is a simulation and even used the word ‘DOTA like game’ in its early promotion (Tencent Video, 2018), the company ignored criticisms from players and promoted the game to people who never player DOTA before. There is no doubt that publication of LOL in China made large profit for the Tencent company but also took a long-term reputation of plagiarism and dirt to the company, mentioned a lot until today (Sohu Community, 2019). Another case happened in recent years which can be described in more detail. MiHoYo, a Chinese company developed popular Japanese animation type act game *Honkai Series*, started a new video game project called *Genshin Impact* in 2019. Because Genshin and the game developed by Nintendo *The Legend of Zelda: Breath of The Wild* are highly similar in art works and mechanism (Game Spot, 2020). Meanwhile, the Genshin’s introduction video is even from the lens nearly identical with Zelda (Game Spot, 2020). Thus, it led to a lot of gamers’ negative attitude saying it is a plagiarized version after the game released a close beta version (Zhihu, 2019). After receiving much criticism judging it ripping off Zelda, Genshin official issued a public notice on 25 June 2019, acknowledging partial content referred to Zelda (Genshin Official, 2019). In August 2019, China Joy convention, the Genshin Impact announced a business cooperation with SONY to launch the PS4 platform game version and will set up a special booth in China Joy for players to experience earlier version of the game. The scene appears that many players were in front of the Genshin booth being abusive, showing the finger, carrying signs as protests, and sitting around the booth intentionally playing handheld Zelda games (Game Trunkline, 2019). A more drastic scene happened on 3 August in front of the booth of Genshin; a gamer smashed his own PS4 host and made a short speech to protest (Images in Appendix 1). Even well-known game media IGN was shocked by this gamer’s behaviour (IGN, 2019), while such behaviour got the universal ‘thumb up’ of Chinese gamers, players’ abusive attitude towards Genshin reached a climax in China again. The game was regarded as direct rip off fraud caused by the extreme lack of innovation ability of company during the peak period of censure, and later, it was regarded as a negative marketing deception intentionally conducted by the company (Bilibili column, 2020). The real purpose of MiHoYo company may never be observable, the relevant effect caused was regarded as negative. However, Genshin weirdly become extremely popular after the publication in September...
2020 and made much revenue for the company. Even TGA (2020) (The Game Award) nominated Genshin for candidate best role-playing game (RPG) game and best mobile game 2020. Analogous cases happened a lot during Chinese online game history but not every company can get success by deceiving players. For instance, NTES’ game Identity V has been boycotted by players as it was considered as a rip-off to Dead by Daylight. Webpage game Chaos SAGA developed by Shanghai Lingyu Networking stopped operating just 24 hours later of service start because of plagiarism to Final Fantasy series (MMOBomb, 2016).

Operation team and development planner within game company should pay attention to which company decision may be regarded as deception by players and how can these deceptions affect players’ attitude and choice of the game. Previous research about deception came out from business ethic perspective suggests companies must stay away from deception behaviour, however, without full consideration of ethical problem, deception to players is sometimes kind of necessary operation strategy from the company side. If a miniature game company, like some indie game studios, is currently under poor finance condition, then the manager could try deducting cost through plagiarizing or generate more revenue to survive by seducing players to top-up. The cost of deception is mostly fine from national legal department which will not be discussed in this article. A more serious consequence is the shrinking of size of user base causing the game to be less attractive to new players. However, not all players react equally when deception happens, the player who does not abandon the game, even support the company publicly on social Internet also exists in real world. Such players arise increasingly frequently in the current China online game industry especially within player group of the leading game companies like Tencent, NETS, and MiHoYo. The author believes that ‘support under deception’ has become kind of a discipline within certain gamer group. Deception is even intentional consumption domestication from monopolistic Internet companies to exclude ‘disloyal players’ to generate higher and more stable benefit. In another word, if one player within current players can potentially create 10 times profit, then it is reasonable to exclude other nine players through intolerable deception from company’s perspective. Visually referring industry report from investment banks, researchers are easy to conclude bright outlook of current Chinese online game industry through sustaining growth number. However, a pure numerical increase does not represent growth in competitiveness. From long-term and macro-industrial perspective, normalized deception strategy from leading companies will ultimately injure the industry environment. Imbalance allocation of investment resource causes domestic game product quality degradation, and gamers’ less willingness to play domestic game. The criticism against leading Chinese game companies currently limits in scattered discussion on social network and lacking research data evidence. Thus, to figure out deception and its impact to Chinese players, the research objective of this article is investigating players in Chinese online game market to illuminate the following:

**Objective 1.** How the factors influencing players’ decision to play or quit are being influenced by deception from game company.

**Objective 2.** Which type of player is more sensitive to deception, and in turn, is more inclined to quit the game.

The article is divided into six sections, first is background overview and introduction part providing a general cognition to the topic of game deception in China. Then is literature review part describing previous academic research on game, and a brief statement of basic hypothesis of the following research. The third part is explanation to research method including data collection method and
MGPM* data analysis method. Fourth part is data collection results exhibition. Fifth part is collected
data analysis process applying the method introduced in the third part and analysis result interpreta-
tion. The final part is research conclusion, implication of the finding and limitation summary.

Literature review

In accordance with definition from Collins Dictionary (2011), deception is a misleading behaviour
to others for self-advantage. There are many deceptions that exist during online game business
process, but only the following four types of deception are involved in this research: game mecha-
nism imitation, direct rip off, fraudulent top-up enticement and negative marketing.

Definitions of the four types of deceptions

According to Jia Li and Ed White (2017), video game mechanism refers to how players interact
with elements within a game, in other words, basic playing rule of a game. Game mechanism is a
primary idea of a game, critical to gameplay; however, imitation is technologically not a difficult
work among peers within game industry (Jia Li and Ed White, 2017). Direct rip off means plagia-
rism of game source codes, art assets, graphics, sounds, literature work, characters and any other
content which deserve direct copyright protection (Drew S. Dean, 2016). Top-up enticement refers
to company artfully attract players to consume by arousing affection desire, show off psychology
or competition psychology in the game (Cao & Xu, 2020). Fraudulent top-up enticement generally
arises with forms like secretly modify winning percentage of lottery system, high imbalance
between top-up players and free players, or launching rare items require large quantity top up. It is
different from attracting players through improving quality of the game or improving players’
willingsness to pay through supplying better experience. Negative marketing is that business tem-
porally sacrifices reputation for promotion. Explained by Yueling Wang (2010) represents creating
‘negative’ events to attract social comments, attention of the media and consumers to realize the
purpose of enterprise (or product) brand promotion quickly and at a low cost.

Referred related theory

The use and gratification are the basic logic of the research. According to statement from Chunyi
Ji (2019), the use and gratification theory refer to treating product users as individuals with specific
needs. Their use of product is pursuant to those specific needs and trend to satisfy these needs.
Downing et al. (1990) explained that uses and gratifications perspective assumes product selection
is purposive and motivated, and that people take the initiative in selecting and using product to
satisfy felt desires. Thus, while game players choosing which game to play or quit, the online game
is considered as a virtual entertainment product gratifying their certain demand well or poorly.

Review of previous research to general motivation of game playing

To investigate how that deception influences players’ choice on gaming, it is necessary to initially
clarify what kind of demand game products are satisfying. Understanding the value of motivation
and the expected utility taken by game playing is critical. Referring to Nick Yee’s (2006) article
Motivation for play in online games, early research to game playing motivation, game play motive
components are categorized into the following:
1. Achievement component: Advancement, Mechanics, Competition
2. Social component: Socializing, Relationship, Teamwork
3. Immersion component: Discovery, Role-playing, Customization
4. Escapism

Based on quantitative research and data analysis on game play motivation from Ferguson and Olson (2010), four most related motivations, coefficient alpha of fun or challenge subscale is 0.78, catharsis subscale is 0.8, social subscale is 0.59, and bored subscale is 0.62. The data seem proving most people play game for fun, challenge and decompression. In addition, Ferguson and Olson (2010) supplemented that individuals spending time on games to meet needs for control not met in their real lives based on both mood management theory and self-determination theory. Moreover, video game can also cultivate early cognitive and social ability of young children. Greenberg et al. (2010) claimed fantasy elements motive younger child players stronger while competition elements are more motivated to older teenager players. Vella et al. (2019) observed that multiplayer game like Pokémon GO can satisfy socialization needs and give players sense of social belonging.

**Categorization of general motivation of game playing**

For the above research conclusions, the general motivations of video game playing can be summarized and categorized into the following:

1. Entertainment: Motivation of player group who enjoy the game itself during game playing such as character within game, game art design, game mechanism, sound, and story.
2. Challenge and competition: Motivation of player group who prefer to compete with other players then obtain triumph, or challenge extremely hard game level then overcome it. To win the game, those players spend time researching the method with most effectiveness with even bugs in the game.
3. Catharsis: Motivation of player group who play game to release pressure from reality in virtual world where they should not be truly responsible to their deed. Players motivated by catharsis may focus more on direct sensory stimuli. Game is closer to alcohol or cigarette from their perspective, meaning a tool to relax.
4. Socialization: Motivation of player group who choose to build and maintain social linkage through game playing with other players. Whether the game itself is enjoyable is indifferent, instead ‘are there people to play with’ or ‘to play with whom’ become vital.
5. Boredom: Motivation of player group who play game for time killing when they feel nothing to do. For boredom players, game playing is to spend boring time such as subway hours to work, waiting time for an appointment, or a weekend without plan.

**Review of previous research to game derivative motivation**

The above five categorized motivations which summarized from previous game research can be regarded as ‘general motivation of game playing’. Excluding general motivations, there are other motivations out of general categorization came up by Cylor Spaulding in 2016. Quoting Cylor Spaulding’s research about how a video game company creates a ‘civil religion’ to maintain user
loyalty; players are motivated by some other external features derived from video game. These external features will be named as ‘game derivative’ in this research.

**Categorization of game derivative motivation**

1. **Brand**: Stated by Clarke’s (2014) research to Star War MMO game that brand is to connect different cultural works under it, to create consumption memory and to promote consumption. There is a high likelihood of player group overlap between company’s different series (Spaulding, 2016). Brand constricted player group base who are considered as fans, if the game published is developed by the company, then the fan players will onboard.

2. **Game developer effect**: Core developer of a game can become an object of game fans adoration who motivates players approaching the game (Spaulding, 2016). While famous developers across the industry gets frequent interview requests from media like celebrities in other industry and been adored by peers as successful developer. These developers have achieved a venerable status within fan communities and they have been listed on top game developers lists by several industrial associations as well (IGN, 2016).

3. **Convention**: Companies take the opportunity to release critical news to galvanize current fan base, attract new players and provide insider information so that players can claim special status. For example, Activision Blizzard has developed a convention for fans called Blizzard con to enhance the brand and allow fans to interact with each other and with developers (Spaulding, 2016).

4. **Fan creation (second time creation from fan group)**: Some game franchise has inspired the creation of its own wiki, fan-created mods, illustrations, movies, video, and fanfiction (Spaulding, 2016). Fan creation facilitates communication between players and spreading of the game as an eWoM. Postigo (2007) claimed fan programmers called ‘modders’ constructed a fan culture of digital games sharing practice and experience among game players, and their active consumption makes economic and cultural contributions to player base expansion.

5. **Internet live streaming and top player effect**: According to Yang’s (2019) research on e-sports and Internet media in China, the emergence of network live streaming platform has provided a new path to the spread of e-sports events. Internet live game anchor and top e-sports players became another type of celebrities in the game industry. A video game’s e-sports competition, live broadcast, and professional players can stimulate the industry economy related to the game, including consumption of the game itself and virtual products within the game (Yang, 2019).

**Possible effect of deception to player decision**

The ‘deceit side’ of the four types of deception is the video game company, the product supplier in game industry. And the ‘deceived side’ is game players, the consumers in game industry. Quoting Liu (2018) that generally main consequences during consumer deception are consumers’ trust loss, reduction of consumers’ purchasing intention, and consumer loyalty decrease. The result in game industry can be that players boycott the game or quit the current playing game but the situation does not pervasively work because game is a cultural product which supplies subjective experience. There are some players who still choose to continue playing, react nothing to the deception or even defend for the company.
Research model is constructed through use and gratification theory saying the fundamental reason that players may boycott the game or give up current game when there is deception is that the motivation to play is undermined by deceptions. Motivation of game playing can be categorized into ‘general motivation’ and ‘game derivatives’. General use and gratification theory seem hard to clarify a player tend to quit the game due to which type of motivation was undermined by deception. It is the question to be answered by following research.

By reviewing motivation of game playing from use and gratification perspective, hypothesis about deception and its impact to players’ game choice can be raised (Research model is in Appendix 2).

**Hypothesis 1.** Players quit playing because of general motivation is undermined by deception.

**Hypothesis 2.** Players quit playing because of game derivative is undermined by deception.

**Hypothesis 3.** Players motivated by general motivation factors are easier to give up playing than players motivated by game derivative factors when there is deception.

**Methodology**

**Data collection**

Primary data were collected from a total of 356 participants around China through Internet questionnaire. Questionnaire is published on Chinese social network where game players can fill in the questionnaire comprise Weibo, Tieba, and NGA community. The questionnaire is mainly constructed with scale problems means asking participants the level of agreement to the statement. ‘1’ is extremely DISAGREE, ‘5’ is extremely AGREE. From ‘1’ to ‘5’ the degree of agreement is increasing. Multiple choice questions are compiled with the purpose of researching which type of deception do players mostly oppose and what motivation factors they believe are affected when there is a deception.

**Participants.** Results are submitted through Internet by participants located in multiple provinces around China. In total, 356 effective samples. A total of 266 participants are male (74.72%) and 90 participants are female (25.28%). As the questionnaire is publicly accessible on Internet, control gender proportion among participants is hard to achieve. The largest number of participants is teenagers and youth, which conforms to main consumer age group of online games. In total, 170 (47.75%) participants are aged between 21 and 25, and 125 (35.11%) participants aged from 16 to 20 years old. Other age phase takes the 17.14% of participants (3.73% from 11 to 15 years, 8.43% from 26 to 30 years, 2.25% from 31 to 35 years, 1.12% from 36 to 40 years, and 1.40% above 40 years). Education degree (including current students) data of participants is collected. In total, 197 participants (55.34%) are 4-year university educated, 55 (15.45%) are high school educated, 45 (12.64%) are junior college educated, 24 (6.74%) are postgraduate educated, 17 (4.78%) are technical secondary school educated, 13 (3.65%) are middle school educated, and 4 (1.32%) are PhD educated. Geographic position of participants is multiple but eastern and southern provinces took the main proportion as 13.20% of participants are from Zhejiang, 9.55% from Guangdong, and 7.02% from Jiangsu which are the top three sources of participants.
Measurement

Socialization. Nick Yee’s (2006) *The Demographics, Motivations and Derived Experiences of Users of Massively Multi-User Online Graphical Environments* generated 15 construct items related with socialization factors of game playing then three items are chosen as statement comprise ‘I find myself having meaningful conversations with others in game’, ‘I talk to my friends in the game about personal issues’ and ‘While playing I like to manipulate other people so they do what I want them to’.

Catharsis. Three statements from Nick Yee, including ‘Doing massive amounts of damage in game is very satisfying’, ‘I like to be immersed in a game fantasy world and feel fed up with real world’ and ‘Playing the game lets me vent and relieve stress from the daily life’, are compiled pursuant to Nick Yee’s escapism measurement items in 2006 research.

Challenge and competition. Three statements that refer to Nick Yee are used to construct questionnaire, including ‘I constantly try to set and reach goals during game playing’, ‘It’s very important to me to get the best item available. Any item which cannot take me more exp or coins in game is meaningless’ and ‘I research everything about a new game or a new character before I starting it’.

Entertainment. Entertainment factor is the last time Nick Yee’s research to MMORPG referred during construction of this questionnaire. Three statements used as estimation to entertainment purpose players are ‘I like wandering and exploring the world rather than challenging levels’, ‘I like try some new playing method or new characters even though doing such cannot take me more game revenue’ and ‘I am un-interested in victory or defeat in competition among players’.

Boredom. Symptoms of players who play for time spending were assessed referring Ferguson and Olson’s *Friends, fun, frustration, and fantasy: Child motivations for video game play* research in 2010. Three measurement statements are ‘Game is just kind of pastime when I feel bored’, ‘I will play game only when I feel nothing to do’ and ‘Playing game is priority time killing method for me’.

Brand. Three measures about brand are compiled rely on *The Effects of Brand Experiences, Trust and Satisfaction on Building Brand Loyalty: An Empirical Research on Global Brands* (Sahin et al., 2011). Original statements are changed to some extent to adapt game industry research into ‘When I want to choose a new game, I will take the game produced by brand manufacture I like as first choice’, ‘I consider playing other games from my favourite game brand’ and ‘I recommend my favourite game manufacture or brand to people around me’.

Developer effect. Famous game developer or development team are regarded as celebrities in game industry; hence, statements referred Suresh Jain’s (2008) celebrity effect research: *A Study on the Impact of Celebrity Endorsement on the Indian Consumers Purchase Decision*. Measurements are ‘When choosing a game, different core developers or teams can have a big impact on my decision, even though it comes from same brand’; ‘If my favourite game developer or development team leaves the company, I won’t consider new games from that company’; and ‘I estimate the quality of a game according to its developer or development team before I really start playing’.
Convention. Convention motivation measurement not only include general exhibition but also e-sports competition event as well as other offline activities held officially. Measurements referred Konstantinos Michailidis’ (2019) *An investigation into the motivations of offline eSports consumption*. Covered ‘I used to attend the offline game convention or esports event relating with the game I like’, ‘I would play a game for a particular offline convention or esports event, even though I wasn’t interested in it before’ and ‘If a game convention doesn’t have one of my favourite games, I won’t go’.

Fan creation. Motivated by second time creation is the game unique from other traditional industries. There is no direct reference statement found but Ichikohji and Katsumata’s (2016) research to amateur manga (Doujinshi) in Japan can be valuable reference as Doujinshi is another type of consumer created second time content. Statements referred are ‘I will start playing a game because related second time fan creation’, ‘I would approach the game for a character (or characters) that I come across in a secondary creation’ and ‘I think second time creation related to the game can expand the player group of the game’.

Internet live streaming and top player effect. Although previous paragraph described anchor and top player is another type of celebrity in game industry, the measurement of the effect does not follow general celebrity effect measurement. Guan’s (2018) research, *Research on current China webcast fashion* to Internet’s attitude towards Internet streaming is referred as statement including ‘There are professional player or network game anchor I subscribed related with the game I currently playing’, ‘One of the games I like now is from recommendation by a professional player or a network game anchor’ and ‘I believe anchors and professional players have a great influence on the promotion of a game’.

Deception. The measurement to deception mainly concerns to the participants’ attention weight of each deception. It is quite straightforward single choice question directly asking participants ‘Which of following is the most abominable deception from game company?’ Options included the following four types of deceptions mentioned in previous pages: Game mechanism imitation, Direct rip off, Fraudulent top-up enticement and Negative marketing.

Importance of motivation factors. Importance represents the extent players care about which factor might be affected when deception happens. Similar as above measurement to deception, measurement to importance degree applies straight multiple-choice question allowing participants to choose several options. Ask participants ‘If there is fraud that you find distasteful, you believe what related factor of a game will be adversely affected?’ All motivation factors are listed in the options.

Quality of goal. Quality of goal represents the satisfaction of reaching a goal which is a vital parameter applied in later data analysis. The investigate questions are scale questions with same grade principle as previous scale questions. To research the quality of approaching goal and avoidance goal, statements are divided into two parts said, ‘I tend to commend a game when it has high variable’ and ‘I will avoid playing the game with low variable’. Variables in these statements can be displaced by motivational factors mentioned like entertainment, socialization, brand effect and so on.
Decision. Measurement of players’ decision is based on Multiple-Goal Pursuit Model (MGPM*) rather than ‘1’ to ‘5’ scale measurement like motivation measurement. MGPM* defined final measurement as ‘ultimate attractiveness’. When the value of ‘ultimate attractiveness’ is positive means players tend to play the game under deception condition. And when the value is negative, players tend to quit the game. Higher absolute value of ‘ultimate attractiveness’ more powerful the willingness to play or quit the game is.

Data analysis method. Analysis of collected data and consequence measurement take the application of Extended MGPM* which is constructed by Ballard et al. in 2016. The MGPM* is the extension of MGPM proposed by Vancouver et al. in 2010 which is used extensively as a cognitive model of approach goal striving.

MGPM suppose people make choices rationally and systemically estimated the probability of all potential results of all actions. That means fully informed about consequence and rational are the main assumptions of MGPM. Choice of video game can be regarded as a rational process although game playing is more like a subjective emotional experience as kind of entertainment tool. The consumption of game, which is different from playing, is rational process as players with different motivations compare and decide what they can get by playing and how much money and time they need to spend. Therefore, selection of MGPM* that assume samples as rational people is appropriate for analysis of game choice decision.

MGPM theory is derived from classical theories of decision making such as control theory. There are several imperfections of MGPM analysis like MGPM envisage when people are choosing the one between competing goals to achieve the determination is comparing the subjective expected utility of each goal. It means the goal with highest expected utility is mostly possible to be chosen. It was against by Busemeyer (1985) that the choice of goal is not only influenced by achieved utility but also uncertainty of failure to each decision. It signifies that the decision making cannot just be a desire to a consequence but can be avoidance of certain consequence.

To provide accurate explanation to more complicated choices during multiple goal pursuit, the MGPM was extended by adding Decision Field Theory (DFT) built up by Busemeyer and Townsend in 1993. DFT is a dynamic model of decision making represents how goals influence the final decision. It offered general account to multiple number of decisions, whereas the original MGPM only accesses choices between two behaviours. DFT uses motivational value (M) term to describe the attractiveness of a result. The term is the feature of two factors: the need to act and the quality of consequence. The need to act represents the discrepancy between current state and the goal, which is quite similar with control theory in MGPM. According to control theory, the aspiration to act one goal is determined by the discrepancy (d) between the acknowledgement of the current state of the variable being controlled and a reference state for that variable. As for the quality (q) refers the satisfaction extent provided by the consequence after achievement of particular goal. DFT is also a supplementary to MGPM as it assumes when comparing actions, individuals cannot acknowledge full related information either simultaneously pay total attention to all possible consequences. The probability of individuals paying attention to a consequence is defined as attention weight (w). Utility is referred as valence (V) in MGPM, which is the product of the discrepancy (d) and gain parameter (κ), represents the importance of the goal to individual.

What make MGPM* distinct with simple bond of two theories is examination of avoidance goal. That is, another main reason of choosing MGPM* analysis instead of original MGPM because one of significant research about ‘quit playing certain game’ can be regarded as an avoidance goal. Ordinary approaching goal like ‘choose playing certain game’ can also be estimated using MGPM*.
MGPM* measures the avoidance goals by taking on negative value of gain parameter ($\kappa$). Summary of extension parameters made by MGPM* pursuant to MGPM can be checked in Appendix 3.

MGPM* functions:

**Discrepancy:** $d = \text{reference state} - \text{current state}$

**Valance:** $V = \max (b + \kappa \times d, 0)$

Parameter $b$ is intercept parameter, represents the valence (utility) of acting goal when current state is equal to the goal. When the goal is an avoidance goal, gain parameter ($\kappa$) is negative.

**Motivational value:** $M = V \times q$

Original MGPM* involved time expectancy parameter but the parameter is excluded from the function as time pressure is not considered in this thesis research.

**Attractiveness of action:** $A = M \times w$

Attractiveness of action is the ultimate parameter needed in this thesis. The motivational factor has higher attractiveness of action (to avoidance goal or approaching goal) then it is more possible to be implemented.

**Results**

Result of questionnaire will be provided through tables in this section. The grade rule of scale question is that ‘1’ is extremely DISAGREE, ‘5’ is extremely AGREE. From ‘1’ to ‘5’ the degree of agreement is amplifying. Referring to Tables 1 to 10, most participants in China are motivated by company brand (Table 8) and second time creation (Table 7) factors. Underline convention activities used to be considered as important owns lowest grade (Table 10) meaning the motivation effect among China player groups is not as significant as what Spaulding mentioned. Grade of ‘general motivation’ stays at an average level (Tables 1–5) implying basic factors are also important in a game. Results of scale questions are in Appendix 4.

**MGPM* analysis**

**Calculation**

The ultimate purpose of calculation is obtaining the ‘attractiveness of approaching/avoidance’ to players under each deception for further analysis. The procedure should be separated into approaching goal analysis and avoidance goal analysis. According to use and gratification theory, players motivated by a certain factor of a game must desire high value of the factor. Therefore, the author supposes the approaching goal of each motivational factor is ‘5’ and avoidance goal is ‘1’. It represents players motivated by the certain factor hoping the game they played are with high certain factor grade as well as avoiding playing the game with low factor grade. While reference state of
each motivational factor is approaching goal ‘5’ and avoidance goal ‘1’, discrepancy between current state (questionnaire result) and goal can be obtained. Calculation results are in Appendix 5. As the goal and current state are not equal in all motivational factors, intercept parameter b does not exist. Importance of each factor collected from multiple-choice question, the gain parameter (κ) times discrepancy (d) then gets valance (V) which represents the utility of approaching and utility of avoidance. According to MGPM* model, when there is an avoidance goal the value of gain parameter is negative, the results are listed at Table 16. Quality of acting (q) refers the degree of satisfaction provided by avoiding the game with low factor grade or approaching the game with high factor grade. Quality (q) multiplied by valence (V) get motivational value (M) of avoidance or approaching due to low or high factor in a game. The last procedure of data calculation is containing attention weight to deceptions among participants into the result To gain the ‘attractiveness of avoidance/approaching’ utilizes in next step analysis (Tables 18 and 19).

### Analysis

The first procedure of analysis is horizontal comparing the impact of four types of deception with avoidance choice and approaching choice. It is obvious through comparison that the top-up enticement column owns highest value in both approaching list and avoidance list as the highest among four other deceptions. However, it cannot verdict that fraudulent top-up enticement has the most negative effect to players’ choice to a game as the value ‘attractiveness of approaching’ is also very high under fraudulent top-up enticement. Therefore, it is necessary to minus ‘attractiveness of approaching’ by ‘attractiveness avoidance’ because of the opposite relationship. The consequence of subtraction is named ‘ultimate attractiveness’, if the value of ultimate attractiveness is positive means players motivated by such factor are willing to play the game even there is such deception and vice versa. Results are available in Table 20 in Appendix 6. It can be claimed, based on consequence list above, the negative influence of deception happens to entertainment motivated, second time creation motivated, brand motivated, and developer motivated players. The most negatively influential deception is fraudulent top-up enticement; then are direct rip off, negative marketing, and mechanism simulation.

The second analysis procedure is vertically estimating the effect of each deception. Deceptions are discussed separately then the motivational factors being influenced are ranked as group pursuant to descending ultimate attractiveness. Figures are in Appendix 7. There are four types of players whose ultimate attractiveness is negative, which represents they tend to quit the game when deceptions happen whatever the type of deceptions. Among all player groups, players motivated by brand effect is the most sensitive group as the ultimate attractiveness is negative and far lesser than other groups above it. Separately summarize factors into general motivation and game derivatives, it can be discovered, under all deception conditions, players motivated by general motivational factors can keep positive ultimate attractiveness, while game derivative motivated players are inclined to give up playing or avoid themselves from approaching. Nevertheless, there are convention motivated players as exception whose value of ultimate attractiveness has the highest positive value within all player groups. And the exception of general motivation player group is entertainment motivated player group whose attractiveness value is not only negative but also second lowest, just larger than those brand motivated players. Possible reason for the exceptions, the author believes convention motivated players own low approaching aspiration but they are not eager to avoid playing when deception happens. On the contrast, players motivated by entertainment factors have higher approaching attractiveness as well as higher avoiding attractiveness.
Conclusion, implication of finding, and limitation

Conclusion

The overall objective of the research is investigating how and what the extent of each type of player group being affected by four types of common deceptions from game companies. This study showed that four types of deception mainly undermined game derivative motivations of players. Players motivated by general motivation are less willing to give up the game. Brand motivated players are the most sensitive to deception whatever the type. Ordering of players group from the most insensitive to the most sensitive is convention, catharsis, socialization, boredom, challenge and competition, Internet streaming and top player effect, developer effect, second time creation, entertainment, and brand effect. Sorting the effectiveness of deceptions, the impact of deception is negative within all player groups. Among four types, fraudulent top-up enticement deception can be considered as the most negative influence to players intention to play and, on its heel, there are direct rip off, negative marketing, and mechanism simulation.

Implication of finding

The conclusion, first, supplied commercially practical guidance to current miniature game companies with survival problem. For those game companies own player structure data the consequence in this study can optimize the strategy adjustment. For example, if a game under developing is to be designed as a time killer game aiming at ‘boredom motivated players’, then it is innocuous by adding top-up enticement for revenue as boredom motivated players are not sensitive. And for those companies that do not own player structure data, referring categorization method in this study before data collection, categorize players precisely and take concern to game derivative motivated players can also be valuable. The research conclusion provided supporting evidence to the current strategical misjudgement of large-scale game companies and investors considering generate long-term profit from game industry. Large monopolistic game companies like Tencent put deception as long-term normalized strategy, filtrate out loyal and profitable consumers from diversified player group through deception deepen the separation among players motivated by different factors within the game industry. Investors as profit followers will invest games aiming at certain group of players, while players ‘disloyal’ to the company or players uninterested in ‘capital-inclined games’ is excluded from progress driven by capital investment. Well-regarded high-quality games cannot receive investment, while the game with low quality and extensively poor reputation becomes desirable by capitals, it has become structural common phenomenon behind high numerical growth rate of Chinese online game industry. Abnormally, imbalance development of Chinese game industry cannot take long-term profit nor improve competitiveness of Chinese game within globalized environment. Thus, this research proved necessity and responsibility of large companies to consider a diversified strategical adjustment based on its current player motivation structure and futural target players.

Limitation

There are also limitations and deficiencies in this study. The participant proportion in data collection, first, is not balanced. The largest form of participant is male, youth and university educated people while data from female participants, older or younger aged participants and other educated
level participants are not enough. The second limitation is that the data collected are cross-sectional data which only investigate participants’ perception at the moment of filling questionnaire. Longitudinal data considering perceptions of the process could be collected in the future to improve the research model.

**Funding**

The author(s) received no financial support for the research, authorship and/or publication of this article.

**ORCID iD**

Mujie Zhao [https://orcid.org/0000-0002-4018-3679](https://orcid.org/0000-0002-4018-3679)

**References**

Ballard, T., Yeo, G., Loft, S., Vancouver, J. B., & Neal, A. (2016) An integrative formal model of motivation and decision making: The MGPM. *Journal of Applied Psychology, 102*(2), 235–255. [https://doi.org/10.1037/apl0000198](https://doi.org/10.1037/apl0000198)

Bilibili Column. (2020). 原神碰瓷式出现是为了什么，以及谈谈米哈游抄袭发展史. [What is the purpose for the existence of racketeer by Genshin, a brief discussion about the history of plagiarism in Mihoyo]. https://www.bilibili.com/read/cv8260180?from=search

Busemeyer, J. R. (1985). Decision making under uncertainty. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 11*(3), 538–564. [https://doi.org/10.1037/0278-7393.11.3.538](https://doi.org/10.1037/0278-7393.11.3.538)

Busemeyer, J. R., & Townsend, J. T. (1993). Decision field theory: A dynamic-cognitive approach to decision making in an uncertain environment. *Psychological Review, 100*(3), 432–459. [https://doi.org/10.1037/0033-295X.100.3.432](https://doi.org/10.1037/0033-295X.100.3.432)

Cao, S., & Xu, X. (2020). 竞争、情感与社交:《阴阳师》手游的氪金机制与玩家氪金动机研究 [Competition, emotion, and socialization: A study of top up mechanism and player’s top up motivation in mobile game Onmyoji]. *新闻记者/Journalism Review*. [https://doi.org/10.16057/j.cnki.31-1171/g2.2020.07.003](https://doi.org/10.16057/j.cnki.31-1171/g2.2020.07.003)

Chen, M. (2019a). 腾讯游戏业务渡过难关，阿里巴巴核心电商平稳增长，云计算业务亏损收窄 [Tencent’s gaming business turned a corner, Alibaba’s core e-commerce grew steadily and losses in its cloud computing business narrowed]. 证券研究报告·行业动态/ Securities Research Report, Industry Trends, China Securities Published.

Chen, M. (2019b). 网易Q3点评，游戏业务回升，收入超预期 [Review to Netease Q3, game business picked up, revenue exceeded expectations]. 证券研究报告·行业简评/ Securities Research Report, Industry Brief Review, China Securities.

Chew, M. M. (2019). A critical cultural history of online games in China, 1995–2015. *Games and Culture, 14*(3), 195–215. [https://doi.org/10.1177/1555412016661457](https://doi.org/10.1177/1555412016661457)

Clarke, M. J. (2014). Branded worlds and contracting galaxies. *Games and Culture, 9*(3), 203–224. [https://doi.org/10.1177/1555412014537552](https://doi.org/10.1177/1555412014537552)

Collins Dictionary. (2011). Definition of ‘deception’. [https://www.collinsdictionary.com/dictionary/english/deception](https://www.collinsdictionary.com/dictionary/english/deception)

Dean, D. S. (2016). Hitting reset: Devising a new video game copyright regime. *University of Pennsylvania Law Review, 164*(5), 1239–1280.

Downing, J., Mohammadi, A., & Sreberny, A. (1990). *The nature of the audience. Questioning the media: A critical introduction*. SAGE.

Game Spot. (2020). Genshin impact vs. Zelda: Breath of the wild – 20 biggest similarities. [https://www.youtube.com/watch?v=8ooAISSn5V4](https://www.youtube.com/watch?v=8ooAISSn5V4)

Game Trunkline. (2019). 2019ChinaJoy: 索尼《原神》试玩区遭‘砸场’ [Sony’s Genshin booth is ‘crashed’ by players]. [https://user.guancha.cn/main/content?id=154021&s=fwckhfht](https://user.guancha.cn/main/content?id=154021&s=fwckhfht)
Genshin Official. (2019). 原神制作组致玩家的一封信 [A letter to players from Genshin production team]. https://www.taptap.com/topic/6442251

Greenberg, B. S., Sherry, J., Lachlan, K., Lucas, K., & Holmstrom, A. (2010). Orientations to video games among gender and age groups. *Simulation & Gaming, 41*(2), 238–259. https://doi.org/10.1177/1046878108319930

Guan, X. (2018). 当前我国网络直播时尚研究 [Research to current Chinese Internet streaming fashion] [Master thesis, East China Normal University]. https://kns.cnki.net/KCMS/detail/detail.aspx?dbname=CMFD201901&filename=1018822090.nh

Ichikohji, T., & Katsumata, S. (2016). The relationship between content creation and monetization by consumers: Amateur Manga (Doujinshi) and Music in Japan8307. *Annals of Business Administrative Science, 15*(2), 89. https://doi.org/10.7880/abas.0151214a

IGN. (2016). Top 100 game creators of all time. http://www.ign.com/top/game-creators/
IGN. (2019). Are these games honoring or ripping-off breath of the wild? – NVC 469. https://www.youtube.com/watch?v=UKASVNV6Gho

Ji, C. (2019). 从使用与满足角度浅谈青年人群对边缘文化的关注 – 以韩综《Produce101》为例 [A brief discussion on young people’s concern about marginal culture from the perspective of usage and satisfaction – taking produce101 as an example]. 视听/ *Radio & TV Journal*. https://doi.org/10.19395/j.cnki.1674-246x.2019.11.034

Li, J., & White, E. (2017). The game is on: Protecting IP in video games. *Intellectual Property & Technology Law Journal, 29*(7), 19.

Liu, M. (2018). 线上产品信息感知欺骗的溢出效应研究 [Research on Spill Over Effect of Online Product Information Perception Deception] [Master thesis, Zhongnan University of Economics and Law]. https://kns.cnki.net/KCMS/detail/detail.aspx?dbname=CDFDLAST2019&filename=1018105505.nh

Michailidis, K. (2019). An investigation into the motivations of offline eSports consumption [Msc Events Management]. Lincoln International Business School.

MMOBomb. (2016). Freshly launched MMO Chaos Saga shuts down after 24 hours, likely due to massive copyright infringement. https://www.mmobomb.com/news/freshly-launched-mmo-chaos-saga-shuts-24-hours-likely-due-massive-copyright-infringement/

Olson, C. K. (2010). Children’s motivations for video game play in the context of normal development. *Review of General Psychology, 14*(2), 180–187. https://doi.org/10.1037/a0018984

Postigo, H. (2007). Of mods and modders. *Games and Culture, 2*(4), 300–313. https://doi.org/10.1177/1555412007307955

Sahin, A., Zehir, C., & Kitapçı, H. (2011). The effects of brand experiences, trust and satisfaction on building brand loyalty: An empirical research on global brands. *Procedia, Social and Behavioral Sciences, 24*, 1288–1301. https://doi.org/10.1016/j.sbspro.2011.09.143

Sohu Community. (2019). LOL和Dota的恩怨情仇 [The feud history between LOL and Dota]. https://www.sohu.com/a/328795884_120099902

Spaulding, C. (2016). Applying the devotional–promotional model to the video game ‘Faithful’. *Public Relations Review, 42*(2), 359–365. https://doi.org/10.1016/j.pubrev.2016.01.004

Tao, Z. (2019). 网络游戏行业专题报告 [Network game industry special report]. Caitong Securities.

Tencent Video. (2018). LOL最早的宣传片,老司机们还记得吗? [The earliest promotional video of LOL, old players still remember?]. https://v.qq.com/x/page/u0667xt8dh.html

Teng, W. (2019). 聚焦细分行业龙头 把握游戏・影视机会——2019年文化娱乐行业中期投资策略 [Focusing on the leading businesses in segmented industry and grasping the opportunities of games and films – A medium term investment strategy for the culture and entertainment industry in 2019]. 证券研究报告, 行业研究, 中期策略/[Securities Research Report, Industry Research, Medium Term Strategy]. Shanghai Securities. https://pdf.dfcfw.com/pdf/H3_AP201905281332588528_1.pdf?1559748573000. pdf
TGA. (2020). 2020 nominees. https://thegameawards.com/nominees
Vancouver Jeffrey, B., Weinhardt Justin, M., & Schmidt Aaron, M. (2010). A formal, computational theory of multiple-goal pursuit: Integrating goal-choice and goal-striving processes. *Journal of Applied Psychology, 95*(6), 985–1008. https://doi.org/10.1037/a0020628
Vella, K., Johnson, D., Cheng, V. W. S., Davenport, T., Mitchell, J., Klarkowski, M., & Phillips, C. (2019). A sense of belonging: Pokémon go and social connectedness. *Games and Culture, 14*(6), 583–603. https://doi.org/10.1177/1555412017719973
Wang, Y. (2010). 如何玩转‘负面营销’ [How to manage negative marketing]. 销售与市场(管理版)/ *Marketing and Market (Management Version)*, 5, 64–66.
Yang, X. (2019). 新媒体环境下我国电子竞技赛事传播研究 [Research on the communication of e-sports events in China under the new media environment] [Master thesis, Shenyang Normal University]. https://kns.cnki.net/KCMS/detail/detail.aspx?dbname=CMFD201902&filename=1019057108.nh
Yee, N. (2006). Motivations for play in online games. *Cyberpsychology & Behavior, 9*(6), 772–775. https://doi.org/10.1089/cpb.2006.9.772
Zhihu. (2019). 如何看待Mihoyo公司新作《原神》的‘美术风格’疑似抄袭《塞尔达传说：荒野之息》？[How to comment the ‘art style’ of Mihoyo’s latest game Genshin as a possible rip off to Breath of the Wild?]. https://www.zhihu.com/question/328315137/answer/708816491

**Author biographies**

Mujie Zhao current postgraduate student in University Nottingham Ningbo China studying Entrepreneurship and Innovation Management Programme. Researching consumer behavior and consumption sociology independently.

Dimple R Thadani born and grew up in Hong Kong. Current Assistant Professor in Information Systems at Nottingham University Business School (NUBS) China. Research interests include social media, leadership and online collaborative games, e-commerce, and e-learning.

**Appendix 1**

2019 *China joy convention about Genshin impact*

Players publicly play Zelda game and finger in front of Genshin booth. (https://user.guancha.cn/main/content?id=154021&s=fwckhfbt)
The player who smashed Play Station 4 (http://chinajoy.uuu9.com/201908/450361.shtml, 2019, accessed 21 May 2020)

Appendix 2. The research model.
### Appendix 3. Parameter summary of MGPM*.

Ballard et al. (2016).

### Appendix 4

| Question | Average grade | Standard deviation |
|----------|---------------|--------------------|
| I find myself having meaningful conversations with others. | 3.52 | 1.0248 |
| I talk to my friends in the game about personal issues. | 2.91 | 1.2323 |
| I like to manipulate other people so they do what I want them to. | 2.24 | 1.0604 |

Number of samples = 356.
Total average grade = 2.89.
Pooled standard deviation = 1.0795.

### Table 2. Catharsis factor questions.

| Question | Average grade | Standard deviation |
|----------|---------------|--------------------|
| Doing massive amounts of damage is very satisfying. | 2.54 | 1.1968 |
| I like to be immersed in a game fantasy world and feel fed up with real world. | 2.62 | 1.2515 |
| Playing the game lets me vent and relieve stress from the day. | 3.59 | 1.0774 |

Number of samples = 356.
Total average grade = 2.92.
Pooled standard deviation = 1.1533.
### Table 3. Challenge and competition factor questions.

| Question                                                                 | Average grade | Standard deviation |
|--------------------------------------------------------------------------|---------------|--------------------|
| I constantly try to set and reach goals during game playing.             | 3.72          | 1.0474             |
| It is very important to me to get the best item available. Any item     | 2.13          | 1.0903             |
| which cannot take me more exp or coins in game is meaningless.           |               |                    |
| I research everything about a new game or a new character before I       | 3.60          | 1.0550             |
| start it.                                                               |               |                    |

Sample size = 356.  
Total average grade = 3.15.  
Pooled standard deviation = 1.0620.

### Table 4. Entertainment factor questions.

| Question                                                                 | Average grade | Standard deviation |
|--------------------------------------------------------------------------|---------------|--------------------|
| I like wandering and exploring the world rather than doing missions       | 3.09          | 1.1583             |
| or main story.                                                           |               |                    |
| I like to try some new playing methods or new characters even though      | 3.95          | 0.9657             |
| doing that cannot take more game revenue.                                |               |                    |
| I’m un-interested in victory or defeat in competition among players.     | 3.27          | 1.2005             |

Sample size = 356.  
Total average = 3.44.  
Pooled standard deviation = 1.1354.

### Table 5. Boredom factor questions.

| Question                                                                 | Average grade | Standard deviation |
|--------------------------------------------------------------------------|---------------|--------------------|
| Playing game is priority time killing method for me.                     | 3.55          | 1.1777             |
| Game is just a kind of passtime when I feel bored.                       | 2.94          | 1.2043             |
| I will play game only when I feel nothing to do.                         | 2.53          | 1.0912             |

Sample size = 356.  
Total average = 3.01.  
Pooled standard deviation = 1.1422.

### Table 6. Internet live streaming and top player effect questions.

| Question                                                                 | Average grade | Standard deviation |
|--------------------------------------------------------------------------|---------------|--------------------|
| There are professional player or network game anchor I subscribed related | 3.06          | 1.3682             |
| with the game I currently playing.                                        |               |                    |
| One of the games I like now is from recommendation by a professional     | 2.38          | 1.2666             |
| player or a network game anchor.                                          |               |                    |
| I believe anchors and professional players have a great influence on the  | 3.31          | 1.1477             |
| promotion of a game.                                                     |               |                    |

Sample size = 356.  
Total average grade = 2.92.  
Pooled standard deviation = 1.2359.
Table 7. Second time creation questions.

| Question                                                                 | Average grade | Standard deviation |
|--------------------------------------------------------------------------|---------------|--------------------|
| I will start playing a game because related second time fan creation (like image, music, mod and so on). | 3.54          | 1.1214             |
| I would approach the game for a character (or characters) that I come across in a secondary creation. | 3.37          | 1.1564             |
| I think second time creation related to the game can expand the player group of the game. | 4.11          | 0.8687             |

Sample size = 356.
Total average grade = 3.67.
Pooled standard deviation = 1.0129.

Table 8. Brand effect questions.

| Question                                                                 | Average grade | Standard deviation |
|--------------------------------------------------------------------------|---------------|--------------------|
| When I want to choose a new game, I will take the game produced by brand manufacture I like as first choice. | 3.50          | 1.1196             |
| I consider playing other games from my favourite game brand.              | 3.86          | 0.9989             |
| I recommend my favourite game manufacture or brand to people around me.   | 3.75          | 1.0390             |

Sample size = 356.
Total average grade = 3.70.
Pooled standard deviation = 1.0500.

Table 9. Developer effect questions.

| Question                                                                 | Average grade | Standard deviation |
|--------------------------------------------------------------------------|---------------|--------------------|
| I estimate the quality of a game according to its developer or development team before I really start playing. | 3.39          | 1.1874             |
| When choosing a game, different core developers or teams can have a big impact on my decision, even though it comes from same brand. | 3.34          | 1.1004             |
| If my favourite game developer or development team leaves the company, I won’t consider new games from that company. | 2.57          | 0.9775             |

Sample size = 356.
Total average grade = 3.10.
Pooled standard deviation = 1.0644.
### Table 10. Convention questions.

| Question                                                                 | Average grade | Standard deviation |
|-------------------------------------------------------------------------|---------------|--------------------|
| I used to attend the offline game convention or e-sports event relating with the game I like. | 2.49          | 1.3075             |
| I would play a game for a particular offline convention or e-sports event, even though I was not interested in it before. | 2.23          | 1.1390             |
| If a game convention does not have one of my favourite games, I won’t go. | 3.22          | 1.1820             |

Sample size = 356.  
Total average grade = 2.65.  
Pooled standard deviation = 1.2042.

### Table 11. Quality of avoidance goals.

| Variables                                      | Average grade | Standard deviation |
|------------------------------------------------|---------------|--------------------|
| Socialization                                  | 2.22          | 1.1244             |
| Catharsis                                      | 3.16          | 1.2206             |
| Challenge and competition                      | 2.85          | 1.2156             |
| Entertainment                                  | 3.58          | 1.1984             |
| Bored                                          | 2.88          | 1.2006             |
| Internet streaming and top player effect       | 1.79          | 0.9568             |
| Second time creation                           | 2.21          | 1.0781             |
| Brand effect                                   | 3.66          | 1.1636             |
| Developer effect                               | 3.53          | 1.1539             |
| Convention                                     | 2.02          | 1.0094             |

Sample size = 356.

### Table 12. Quality of approaching goals.

| Variables                                      | Average grade | Standard deviation |
|------------------------------------------------|---------------|--------------------|
| Socialization                                  | 3.05          | 1.1164             |
| Catharsis                                      | 4.10          | 0.7275             |
| Challenge and competition                      | 3.69          | 0.8070             |
| Entertainment                                  | 4.30          | 0.9799             |
| Bored                                          | 3.77          | 1.0087             |
| Internet streaming and top player effect       | 2.36          | 0.9852             |
| Second time creation                           | 3.41          | 1.1064             |
| Brand effect                                   | 2.73          | 1.0522             |
| Developer effect                               | 3.38          | 1.1036             |
| Convention                                     | 2.83          | 1.1555             |

Sample size = 356.
Result of choice questions

**Table 13.** Result of ‘Which of following is the most abominable deception from game company’ question (single choice).

| Options                       | Account | Proportion (%) |
|-------------------------------|---------|----------------|
| Game mechanism simulation     | 20      | 5.62           |
| Direct rip off                | 114     | 32.02          |
| Top-up enticement             | 157     | 44.10          |
| Negative marketing            | 41      | 11.52          |
| Other                         | 24      | 5.79           |
| Total participants            | 356     |                |

Note. Part of descriptions from free option ‘other’: High-price crowdfunding deception. Non-updating game data for a long time causes the game progress to lag far behind other servers. Company promotes game idolization for more profits.

**Table 14.** Result of ‘If there is fraud that you find distasteful, you believe what related factor of a game will be adversely affected?’ question (multiple-choice).

| Options                                      | Account | Proportion (%) |
|----------------------------------------------|---------|----------------|
| Sociability                                  | 118     | 33.15          |
| Catharsis                                    | 121     | 33.98          |
| Entertainment                                | 168     | 47.19          |
| Competition and challenge fairness           | 202     | 56.74          |
| Passtime function                            | 119     | 33.43          |
| Related network streaming                    | 62      | 17.42          |
| Environment of second time fan creation      | 131     | 36.80          |
| Brand image of game company                  | 263     | 73.88          |
| Reputation of development team               | 242     | 67.98          |
| Convention and e-sports event credibility    | 141     | 39.61          |
| Other                                        | 12      | 3.37           |
| Total participants                           | 356     |                |

Part of descriptions from free option ‘other’: The overall impression of the game industry and culture, not just the impression of individual companies. Players’ trust in China’s entire game industry. The credibility of the game operation team.
Appendix 5

Table 15. Discrepancy of approaching goal and avoidance goal.

| Motivational factor                        | Average grade | Supposed avoidance goal | Discrepancy of avoidance goal and average grade | Supposed approaching goal | Discrepancy of approaching goal and average grade |
|--------------------------------------------|---------------|-------------------------|------------------------------------------------|---------------------------|--------------------------------------------------|
| Socialization                              | 2.89          | I                       | −1.89                                           | 5                         | 2.11                                             |
| Catharsis                                  | 2.92          | I                       | −1.92                                           | 5                         | 2.08                                             |
| Challenge and competition                  | 3.15          | I                       | −2.15                                           | 5                         | 1.85                                             |
| Entertainment                              | 3.44          | I                       | −2.44                                           | 5                         | 1.56                                             |
| Bored                                      | 3.01          | I                       | −2.01                                           | 5                         | 1.99                                             |
| Internet streaming and top player effect   | 2.92          | I                       | −1.92                                           | 5                         | 2.08                                             |
| Second time creation                       | 3.67          | I                       | −2.67                                           | 5                         | 1.33                                             |
| Brand effect                               | 3.70          | I                       | −2.70                                           | 5                         | 1.30                                             |
| Developer effect                           | 3.10          | I                       | −2.10                                           | 5                         | 1.90                                             |
| Convention                                 | 2.65          | I                       | −1.65                                           | 5                         | 2.35                                             |

Table 16. Valance of approaching goal and avoidance goal.

| Motivational factor                        | Importance of each motivational factor (avoidance goal) | Discrepancy of avoidance goal and average grade | Valence of avoidance goal | Importance of each motivational factor (approaching goal) | Discrepancy of approaching goal and average grade | Valence of approaching goal |
|--------------------------------------------|--------------------------------------------------------|------------------------------------------------|--------------------------|--------------------------------------------------------|-------------------------------------------------|-----------------------------|
| Socialization                              | −0.3315                                                | −1.89                                           | 0.6265                   | 0.3315                                                 | 2.11                                            | 0.6995                      |
| Catharsis                                  | −0.3398                                                | −1.92                                           | 0.6513                   | 0.3398                                                 | 2.08                                            | 0.7079                      |
| Challenge and competition                  | −0.5674                                                | −2.15                                           | 1.2199                   | 0.5674                                                 | 1.85                                            | 1.0497                      |
| Entertainment                              | −0.4719                                                | −2.42                                           | 1.1499                   | 0.4719                                                 | 1.56                                            | 0.7377                      |
| Bored                                      | −0.3343                                                | −2.01                                           | 0.6708                   | 0.3343                                                 | 1.99                                            | 0.6664                      |
| Internet streaming and top player effect   | −0.1742                                                | −1.92                                           | 0.3339                   | 0.1742                                                 | 2.08                                            | 0.3629                      |
| Second time creation                       | −0.3680                                                | −2.67                                           | 0.9838                   | 0.3680                                                 | 1.33                                            | 0.4882                      |
| Brand effect                               | −0.7388                                                | −2.70                                           | 1.9972                   | 0.7388                                                 | 1.30                                            | 0.9580                      |
| Developer effect                           | −0.6798                                                | −2.10                                           | 1.4276                   | 0.6789                                                 | 1.90                                            | 1.2916                      |
| Convention                                 | −0.3961                                                | −1.65                                           | 0.6522                   | 0.3961                                                 | 2.35                                            | 0.9322                      |
### Table 17. Motivational value of approaching goal and avoidance goal.

| Factor                              | Motivational value of avoidance goal | Motivational value of approaching goal |
|-------------------------------------|--------------------------------------|----------------------------------------|
|                                     | Mav                                  | Map                                    |
| Socialization                       | 1.3909                               | 2.1334                                 |
| Catharsis                           | 2.0581                               | 2.9025                                 |
| Challenge and competition           | 3.4767                               | 3.8374                                 |
| Entertainment                       | 4.1165                               | 3.1723                                 |
| Bored                               | 1.9320                               | 2.5122                                 |
| Internet streaming and top player effect | 0.5977                               | 0.8565                                 |
| Second time creation                | 2.1742                               | 1.6648                                 |
| Brand effect                        | 7.3098                               | 2.6153                                 |
| Developer effect                    | 5.0394                               | 4.3657                                 |
| Convention                          | 1.3175                               | 2.6380                                 |

### Table 18. Results for avoidance goal.

| Attractiveness of avoid playing          | Mechanism simulation | Top-up enticement | Direct rip off | Negative marketing |
|-----------------------------------------|----------------------|--------------------|----------------|--------------------|
|                                        | Avm                  | Aavt               | Aavd           | Aavn               |
| Socialization                          | 0.0782               | 0.6134             | 0.4454         | 0.1602             |
| Catharsis                              | 0.1157               | 0.9076             | 0.6590         | 0.2371             |
| Challenge and competition              | 0.1954               | 1.5332             | 1.1133         | 0.4005             |
| Entertainment                          | 0.2313               | 1.8154             | 1.3181         | 0.4742             |
| Bored                                  | 0.1086               | 0.8520             | 0.6186         | 0.2226             |
| Internet streaming and top player effect | 0.0336               | 0.2636             | 0.1914         | 0.0688             |
| Second time creation                   | 0.1222               | 0.9588             | 0.6962         | 0.2505             |
| Brand effect                           | 0.4108               | 3.2236             | 2.3406         | 0.8421             |
| Developer effect                       | 0.2832               | 2.2224             | 1.6136         | 0.5805             |
| Convention                             | 0.0740               | 0.5810             | 0.4219         | 0.1518             |
### Table 19. Results for approaching goal.

| Attractiveness of approaching | Mechanism simulation | Top-up enticement | Direct rip off | Negative marketing |
|------------------------------|----------------------|-------------------|----------------|-------------------|
|                              | Aapm | Aapt | Aapd | Aapn |
| Socialization                | 0.1199 | 0.9408 | 0.6831 | 0.2458 |
| Catharsis                    | 0.1631 | 1.2800 | 0.9294 | 0.3344 |
| Challenge and competition    | 0.2177 | 1.7082 | 1.2402 | 0.4462 |
| Entertainment                | 0.1783 | 1.3990 | 1.0158 | 0.3654 |
| Bored                        | 0.1412 | 1.1079 | 0.8044 | 0.2894 |
| Internet streaming and top player effect | 0.0481 | 0.3777 | 0.2742 | 0.0987 |
| Second time creation         | 0.0936 | 0.7342 | 0.5331 | 0.1918 |
| Brand effect                 | 0.1470 | 1.1533 | 0.8374 | 0.3013 |
| Developer effect             | 0.2454 | 1.9253 | 1.3979 | 0.5029 |
| Convention                   | 0.1483 | 1.1634 | 0.8447 | 0.3039 |

### Appendix 6

#### Table 20. Ultimate attractiveness of a game to each type of player under four types of deceptions (Negative for avoidance, positive for approaching).

| Ultimate attractiveness | Mechanism simulation | Top-up enticement | Direct rip off | Negative marketing |
|-------------------------|----------------------|-------------------|----------------|-------------------|
|                         | Aum | Aut | Aud | Aun |
| Socialization           | 0.0417 | 0.3274 | 0.2377 | 0.0855 |
| Catharsis               | 0.0475 | 0.3742 | 0.2704 | 0.09703 |
| Challenge and competition | 0.0223 | 0.1749 | 0.1270 | 0.0457 |
| Entertainment           | -0.0531 | -0.4164 | -0.3023 | -0.1088 |
| Bored                   | 0.0326 | 0.2559 | 0.1858 | 0.0668 |
| Internet streaming and top player effect | 0.0145 | 0.1141 | 0.0829 | 0.0298 |
| Second time creation    | -0.0286 | -0.2246 | -0.1631 | -0.0587 |
| Brand effect            | -0.2638 | -2.0703 | -1.5032 | -0.5408 |
| Developer effect        | -0.0379 | -0.2971 | -0.2157 | -0.0776 |
| Convention              | 0.0742 | 0.5823 | 0.4228 | 0.1521 |
| Average                 | -0.0151 | -0.1181 | -0.0858 | -0.0309 |
Appendix 7

Figure 1. Ranking bar chart of ultimate attractiveness under mechanism simulation. Average attractiveness = –0.0151. General motivational factor attractiveness = 0.0910. Game derivative attractiveness = –0.2416.

Figure 2. Ranking bar chart of ultimate attractiveness under top-up enticement. Average attractiveness = –0.1181. General motivational factor attractiveness = 0.7142. Game derivative attractiveness = –1.7206.
Figure 3. Ranking bar chart of ultimate attractiveness under direct rip off.  
Average attractiveness = –0.0858.  
General motivational factor attractiveness = 0.5186.  
Game derivative attractiveness = –1.2493.

Figure 4. Ranking bar chart of ultimate attractiveness under negative marketing.  
Average attractiveness = –0.0309.  
General motivational factor attractiveness = 0.1409.  
Game derivative attractiveness = –0.4952.