

An Analytical Study of Teenagers' Motivation to Purchase Virtual Goods

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Abstract:

With the rapid development of the digital age, virtual items are widely used in daily life and entertainment. This study aims to gain an in-depth understanding of consumers' motivations, influencing factors, and psychological states in purchasing virtual items and to provide valuable suggestions for the virtual goods industry. Through in-depth interviews and questionnaires, the study reveals that consumers' main motivation for purchasing virtual items is to improve their gaming experience. At the same time, social interaction also plays an important role in purchase decisions. Factors such as price, affordability, and herd mentality also influence consumers' purchasing decisions. In addition, personalized and customized services, social elements, and reasonable pricing and promotion strategies for virtual goods are important to attract consumers. This study is of great significance to the virtual goods industry. Enterprises should first understand consumers' personalized needs and provide virtual goods and services that meet them.

Keywords: virtual items; motivation; influencing factors; reasonable pricing; promotional strategies

1. Introduction

In today's society, with the continuous advancement of technology and the global popularity of the Internet, the gaming industry is in an unprecedented stage of prosperity^[1], evidenced by increasing global revenues and player engagement. As a core component of the game industry, the study of game economy has gradually become the focus of attention in academia and industry^[2]. First, we'll look at the current state of the gaming economy, where the player base is large and diverse. Gamers of all ages, genders, and geographies are attracted to various game genres and styles, including competitive, role-playing, strategy, and more^[3]. As an important part of the gaming market, teenagers significantly influence virtual item purchases^[4]. Secondly, in-game purchases, as one of the main sources of income for the game economy, are presented in the form of purchasing virtual currency, skins, and props^[5]. This provides game developers with more flexible income pathways while also providing players with a richer gaming experience^[8]. Items and equipment are important resources in the game, not only providing the player with advantages and abilities but also enhancing the character's appearance. These items can be obtained in various ways, including the in-game store, quest rewards, drops, and more.

However, with the intensification of competition in the

current game market, teenagers' purchase of game virtual goods has become a social phenomenon that attracts attention^[10]. This has raised concerns about the mental health of minors and the shaping of consumer perspectives, which need to be deeply explored and resolved^[11]. Teenagers are still growing up, and their outlook on consumption has not yet been perfected, so their concepts are more likely to be influenced by the outside world, and their psychology is more likely to be exploited by the outside world^[12]. As a result, teenagers have become a target group for game developers. In this context, virtual items are no longer just in-game items but also increasingly become a sign of social proof, and the gaming experience and vanity drive teenagers to invest more money^[13]. This buying behavior is carefully designed by game developers and influenced by social media and peer groups, creating social pressure for teens to participate in more virtual item transactions. There are many reasons for this social phenomenon^[14]. The first is the issue of game fairness, some of which use unfair means to attract young people, such as misuse of data and market manipulation. In addition, regarding technical challenges, teenagers' preferences for game performance, image quality, and interaction have become the focus of game developer research, bringing new opportunities for game developers to attract teenagers to spend in more ways^[15].

In the future, virtual currency and blockchain technology

will bring new development opportunities to the game economy^[16]. Social networking will be the core development direction of future games, emphasizing interaction and cooperation between players^[17]. Trading through virtual currencies can reduce costs and improve efficiency; besides, with social networking as the core development direction, the virtual currency can better protect players' property and privacy and positively change teenagers' gaming experience^[20]. Effectively reduce the fraud phenomenon of criminals targeting young people with a weak sense of prevention and reduce property loss and privacy leakage^{[18][19]}. An in-depth study of the psychological motivations and behavior patterns of adolescents purchasing virtual items will help us understand the nature of this phenomenon more comprehensively and provide strong support for formulating effective policies^[21].

In a word, as an emerging industry, the game economy has huge potential and development space and faces major challenges^[22]. In the Internet era, this paper will focus on the in-depth analysis of why adolescents are motivated to purchase virtual items^[23].

2. Literature Review

With the advent of the digital economy era, the game industry has been highly valued by the government and has ushered in new opportunities^[24] in the new era. The scale of mobile games continues to expand, and the types of games are becoming richer and richer, making teenagers' consumption behavior in online games more and more frequent. The consumption behavior of teenagers in online games has become a hot topic of concern from all sectors of society^[6]. Our research goal is to explore the motivation of teenagers to buy virtual goods. The importance of this topic can be analyzed from three perspectives: 1. From the perspective of consumer behavior insights, understanding teenagers' consumption behavior and motivation can help game developers design and promote virtual goods, thus increasing their income. 2. In terms of mental health, buying virtual items for long and large amounts may be related to mental health problems. This study can provide insights on preventing bad consumption behavior. 3. From the perspective of social influence, virtual items also have social significance in the game community, so understanding their consumer motive can help to understand the new form of modern social interaction^{[25][26]}.

Through combing and integrating relevant literature, it can be seen that there are few studies on the motivation of buying virtual goods, mainly focusing on the application of virtual reality in psychotherapy, virtual self-image, and behavior, the association between digital media and young people's gambling behavior, the authenticity on social net-

work sites and user happiness and other contents^[27].

Griffiths and Davies discussed the effects of virtual reality in treating troubling delusions^[28]. They found that the virtual reality environment could be used as an effective therapeutic tool, but it also raised questions about how the virtual environment affects the psychology of users^[29]. Yee et al. found that people may change when their virtual self differs from their real self. King, Delfabbro, and Griffiths explored the influence of digital media on gambling behavior among young people^{[30][31]}. They found that digital media and online activities could be linked to gambling behavior among young people. The study by Reinecke and Trepte analyzed the relationship between authenticity and user happiness on social network sites. They found a positive correlation between online authenticity and higher well-being^{[5][32]}. Although these studies provide valuable insights into virtual environments, virtual goods, and online interactions, there are some issues and drawbacks:

1. there is less research on how virtual objects accurately reflect real-life behaviors and emotions.
2. There are few studies on how virtual items affect adolescent mental health.
3. The motivation factors affecting teenagers' purchase of virtual goods have not been fully answered.

Regarding the above issues, our study aimed to explore the motivation of adolescents to buy virtual goods. Specifically, we hope to understand the following aspects:

1. What is the main motivation for teenagers to buy virtual goods?
2. What factors affect their purchase decisions, such as in-game rewards, social stress, or other external factors?
3. How do these purchases relate to adolescents' mental health and social interactions?

The study population we focused on targets adolescents aged from 13 to 19. They are the main consumers of online games and the virtual goods market. They began to exhibit their consumption behavior during this period but also faced psychological and social development challenges, which may affect their purchase decisions on virtual goods.

We will use literature research methods, questionnaires, and in-depth interviews to learn more about why teenagers buy virtual items. Our study hypothesis is that adolescents are motivated to purchase virtual items primarily to enhance the gaming experience. Through this study, investigation, and qualitative and quantitative analysis, we hope to provide new insights for understanding and explaining teenagers' behavior and motivation in the virtual environment, draw more comprehensive and accurate conclusions, and provide valuable reference information for game developers, educators, and mental health experts.

3. Literature References Research Methods

3.1 Literature studies

Through the Internet, public books and papers, etc. channels can be used to obtain information and use it as supporting information and the basis for research. The main materials include open literature and other ways to discover the internal and external components behind “teenagers buy virtual goods”. Also, through Google Academic, Baidu, and other official data summaries and analyses, to understand the main characteristics of “virtual goods” this commodity promotes the behavior of teenagers to buy virtual products and commercial means such as business promotions, so that better to make a multidimensional objective evaluation and analytical discussion of the purchasing behavior of adolescents, based on the literature to draw valuable conclusions on the subject.

3.2 Questionnaire method

The questionnaire method is a commonly used tool for collecting information in social survey studies, where researchers understand the circumstances and characteristics of the subject by designing a system question to collect the information. The questionnaire was summarized through preliminary consultations and interviews with respondents that could generally reflect the motivation of teenagers to buy virtual goods. According to social trends, advertising promotion and promotion, game settings, and social and psychological dimensions constitute the questionnaire, from environmental factors to psychological needs factors. Analysis of the “deep determinants behind the behavior of teenagers buying virtual goods” through multidimensional exploration and analysis and the collection of extensive and genuine data in this form of questionnaires. The game player’s perspective also explores the dimensions of the determinants for the future development of the economy and the prosperity of the industry of “virtual objects” to better help the sustainable development of future game economies.

3.3 Deep interview

The deep interview method refers to the requirement determined by the interviewer based on the survey research. To obtain social information through purposeful direct conversations with survey subjects. Find representative virtual items to purchase from around the world. Conduct interviews with teenagers. Conduct interviews from multiple dimensions, including motivation, influencing factors, consumption behavior, and social and psychological aspects, from external to internal factors, to explore the reasons for purchasing virtual goods. Organize the data

obtained from the interviews into a complete interview record, extract and summarize important information, and obtain first-hand information on the reasons for teenagers purchasing virtual goods to more intuitively and accurately reflect the true thoughts and voices of the group so that we can better grasp the current situation and conduct in-depth research. In addition, the interview content also includes the views of teenagers on game developers and their thoughts on the gradual development of virtual item purchasing behavior in the gaming industry. This has extremely high reference value for the future development direction of this field and helps the development of game economics to be more diversified. The questionnaire survey method is a commonly used in social survey research to collect data. It is a method in which surveyors design systematic questions to collect the information and characteristics of the respondents to collect data. A questionnaire reflecting teenagers ‘ motivation to purchase virtual goods was summarized through preliminary research and interviews with interviewees. From a macro perspective, the motivation behind teenagers purchasing virtual goods was analyzed, and the future economic development and the industry prosperity of virtual goods were explored.

4. Research Analysis

4.1 Questionnaire-based survey on motivations for purchasing virtual items

The questionnaire survey results show that, as shown in Figure 1, the 10-13-year-old age group accounts for 3.54%, which is the age group with the smallest proportion. Participants in the 14-16 age group account for the largest proportion, accounting for 71.68% of the total, and they play online games more frequently, basically playing games every day or every week. The 17-19 age group accounts for 11.50%. The age group above 20 years old accounts for 13.27%. The proportions of the two age groups after 17 years old are relatively even.

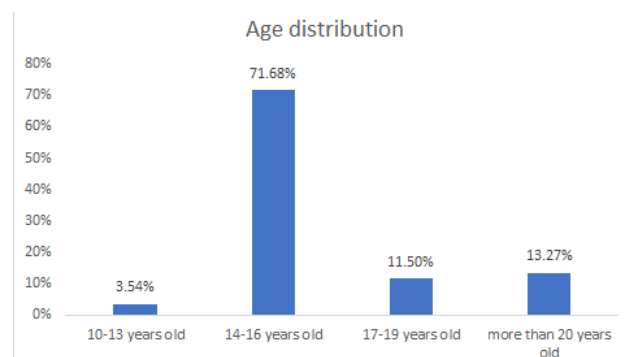


Fig.1 Age distribution of the questionnaire
Through questionnaire surveys, we gained an in-depth

understanding of the main motivations for teenagers to purchase virtual items. As shown in Fig. 2, most teenagers purchase virtual items mainly to improve their gaming experience. This motivation accounted for a considerable proportion of all respondents, reaching 63.72%. Teenagers are eager to obtain a better gaming experience by purchasing virtual items, which may relate to their love for games and pursuit of higher-quality experiences.

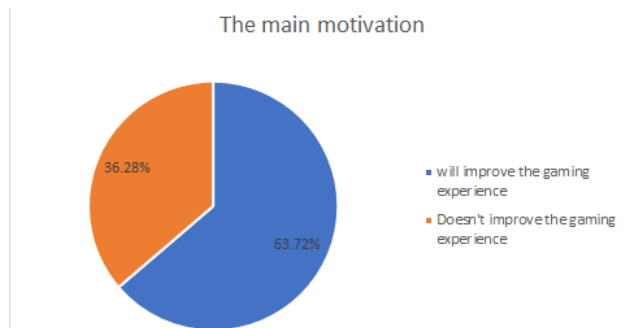


Fig 2 Teenagers’ main motivations for buying virtual goods

In addition, social interaction is also an important factor influencing teenagers’ purchasing decisions. As shown in Figure 2, approximately 11.5% of the respondents said they would purchase virtual items because of personalized characters, which may reflect teenagers’ pursuit of self-expression and personalization. At the same time, 8.5% of the respondents stated that social interaction is one of the reasons why they purchase virtual items, which shows that teenagers not only pursue entertainment in games but also seek interaction and recognition with others.

It is worth noting that approximately 15.93% of the respondents stated that other reasons were their main reasons for purchasing virtual items. These “other reasons” may include personal preferences, specific events or promotions, etc. This suggests that in addition to enhancing gaming experience and social interaction, multiple other factors influence teenagers’ purchasing decisions.

Overall, the main motivation for teenagers to purchase virtual items is to enhance their gaming experience. At the same time, social interaction, personalized characters, and various promotions also impact their purchasing decisions.

The survey also revealed other factors influencing teenagers to purchase virtual items. As shown in Figure 3, first of all, most respondents stated that they had not been strongly affected regarding the impact of advertising or promotional activities. Regarding whether they are influenced by in-game advertisements or promotions to make purchases, 63.72% of people chose “no”, which shows that teenagers can restrain advertisements and will not be easily influenced by advertisements to make consumption

decisions. Only 36.28% of people chose “yes”, indicating that advertising is not the main factor that prompts teenagers to recharge.

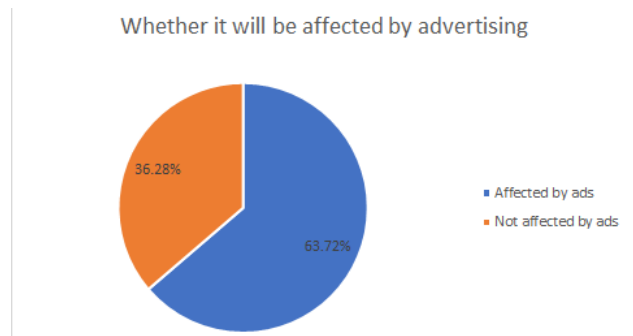


Fig. 3 Whether the purchase will be influenced by advertising

Similarly, as shown in Fig. 4, regarding whether some in-game achievements or goals require the purchase of virtual items, 66.37% of people believe that in-game achievements or goals are not worth recharging. Only 33.63% of people chose “yes”, which shows that most people have a conservative attitude toward the importance of in-game goals and are unwilling to achieve them through recharge. This reflects that teenagers are more rational in their in-game recharge decisions and pay more attention to the experience and sense of achievement in the game rather than achieving achievements by purchasing virtual items. These further highlight that teenagers’ consumption behavior in digital entertainment tends to make rational choices rather than being easily influenced by advertising.

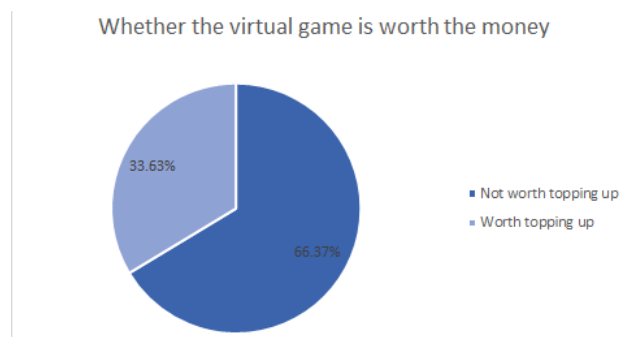


Fig. 4 Are virtual games worth the fees?

Regarding consumption behavior, the questionnaire results show that teenagers’ consumption behavior is relatively rational. As shown in Figure 5, when consumers were asked about their average monthly spending on virtual items in online games, 32.74% of people spent no money on average every month, and 30.97% spent 1-50 yuan on average every month. 14.16% of people spend an average of 51-200 yuan on online games every month. This shows that most players spend an average of a small amount of money on online games every month. Still, a considerable

number of teenagers can rationally control their consumption behavior and avoid excessive consumption.

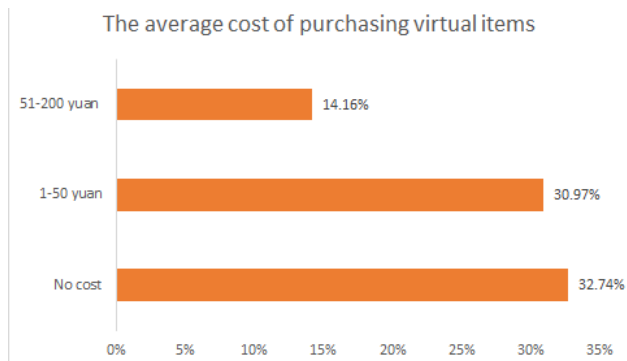


Fig. 5 The average amount teenagers spend on items

In addition, as shown in Fig. 6, regarding regret and financial pressure after purchasing virtual items, 35.4% of people will have regrets after purchasing virtual items, and some consumers will have regrets after purchasing virtual

items. Severe financial pressure. This shows that some teenagers may have a certain degree of blindness and impulsivity in their consumption behavior, and consumer education and guidance need to be strengthened. 64.6% of consumers did not feel regret or financial pressure after purchasing virtual items, which shows that most teenagers can consume rationally based on their actual needs and financial capabilities.

To sum up, teenagers' purchasing behavior for virtual items is affected by many factors. They focus on the gaming experience and social interaction but are also influenced by factors such as advertising, promotions, and personal preferences. Although some teenagers may be blind and impulsive, most teenagers can rationally control their consumption behavior and avoid over-consumption and unnecessary regrets. Therefore, we need to guide young people to establish correct consumption concepts and behavioral habits and cultivate their sense of rationality and responsibility.

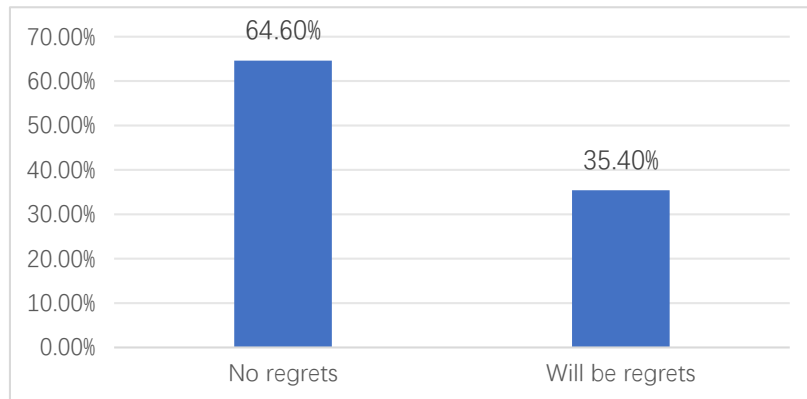


Fig. 6 Psychology after purchasing virtual goods

4.2 Social Psychology of Buying Virtual Goods Based on Interview Research

With the advent of the digital era, virtual items occupy an increasingly important position in our lives. And behind this, there is a social psychology that cannot be ignored. This in-depth interview research aims to better understand people's social and psychological motivations and influencing factors when buying virtual items.

4.2.1 Social Psychology Analysis

We found that most interviewees were largely influenced by social psychology when buying virtual items. They said virtual items are a material commodity and a social capital. Owning certain virtual items can enhance one's status and prestige in social networks, thus gaining more attention and recognition.

One of the interviewees mentioned, "Owning rare virtual items in games can make me feel different and attract

more people's attention. Sometimes, these items can become a common topic for me to communicate with others and bring them closer together." This psychological motivation to enhance social status by owning rare virtual items was mentioned several times in the interviews.

In addition, to enhancing social status, interviewees also indicated that virtual items are also a way for them to establish and maintain connections with friends, family, or other players. For example, certain virtual items can be given as gifts to friends and family, thus strengthening the emotional bond between them. This emotional connection is not only present in the real world but is equally important in the virtual world.

In addition, we found that people tend to be influenced by the people around them when purchasing virtual items. One interviewee mentioned, "Sometimes when I see that my friends are playing a certain game and own many rare items, I would unconsciously want to own the same thing

and don't want to lag behind them." This herd mentality is also a major reason why people buy virtual items.

Of course, buying virtual items is not all about socializing. Some interviewees in the interviews also said that they buy virtual items mainly out of personal preference and practical needs. For example, some players buy virtual items to enhance their gaming experience or to get more personalized choices.

Finally, there were differences in different adolescents' perceptions of owning virtual items to enhance their status in the game. There was a clear difference in attitudes between the two students, with one party stating that he did not care very much, suggesting, "It would only be considered for myself, and I didn't pay much attention to the point of enhancing my status." The other side argued, "Although not agreeing with it, it is undeniable that the current gaming environment is true that people with more skins and power are more popular. Owning certain virtual items can enhance one's image and strength, indirectly leading to being more popular." After purchasing virtual items, they all agreed that virtual items can enhance the gaming experience and generate emotional satisfaction. One party stated, "Using beautiful and favorite items can make the mood more pleasant." The other side emphasized, "Purchasing some props can make the game twice as effective and improve the jamming phenomenon well." Although their thoughts are different, they all tend to agree with the idea that virtual items can enhance the game experience.

In summary, people's social psychology when purchasing virtual items is a complex and diverse field. Various factors, from enhancing social status and establishing emotional connection to herd mentality, influence people's consumption decisions. Therefore, a deeper understanding of these social psychology factors is crucial for companies and developers to better design, position, and promote virtual items. They must pay more attention to consumers' social needs and psychological motivations to create virtual goods more aligned with market demands. Meanwhile, consumers also need to look at the purchasing behavior of virtual goods more rationally to avoid blindly following the trend or over-consumption.

4.2.2 Consumer Behavior Analysis

In the interviews, we found that consumers mainly base their buying on their personal needs and preferences when buying virtual goods. For example, one interviewee said, "I like to collect rare skins within the game because they not only have a unique appearance but also enhance my gaming experience." This consumer behavior based on personal needs suggests that consumers have a high degree of autonomy and personalization when purchasing virtual

goods.

When asked about the impact of price on purchasing decisions, one respondent shared her experience, "Once, I wanted to buy a new character, but the price was beyond my budget. Although I loved that character, I ultimately decided to wait until the price was lower or I saved enough money to buy it." This shows consumers' sensitivity to price and rational thinking when purchasing virtual items.

Many respondents indicated that they are influenced by social interactions when purchasing virtual items. One respondent shared, "Seeing that friends are playing a certain game and have many rare items.

5. Discussion and Conclusion

In the digital age, virtual items have become indispensable to daily life and entertainment. From in-game equipment to various decorations on social media, virtual items provide consumers with a rich array of choices. However, the psychological motivations and decision-making processes behind consumers' purchase behavior for virtual items remain a complex and multidimensional. This study aims to gain an in-depth understanding of consumers' motivations, influencing factors, and psychological states when purchasing virtual items, providing valuable recommendations for developing the virtual goods industry.

This study combines in-depth interviews and questionnaire surveys to comprehensively explore consumers' behavior in purchasing virtual items. Firstly, we conducted in-depth interviews with dozens of respondents, covering consumers of different ages, genders, and educational backgrounds. The interviews mainly focused on respondents' purchase motivations, decision-making processes, and the role of virtual items in their social lives. Additionally, we designed a detailed questionnaire and conducted a large-scale survey through online platforms, collecting hundreds of valid responses. The questionnaire covered consumer purchase frequency, economic capabilities, social interactions, and their cognition and attitudes toward virtual items.

The results of interviews and questionnaires showed that personal preferences and practical needs are the main motivations for consumers to purchase virtual items. Most respondents indicated purchasing virtual items to satisfy their gaming needs, enhance gaming experiences, or obtain personalized choices. They believe these items can help them better experience games, showcase their style, or improve game competitiveness. Additionally, some respondents stated that they purchase virtual items to showcase their personality, taste, or social status. They believe that by owning rare or unique virtual items, they

can showcase their achievements and uniqueness on social media.

Interview results indicate that price, personal economic capability, and social interaction influence consumer purchasing decisions. Respondents generally state that they decide whether to purchase or choose the price range of virtual items based on their economic situation. High-priced virtual items are often associated with higher quality, rarer attributes, or richer functionality. However, consumers consider their economic affordability thoroughly when making purchasing decisions. Additionally, they are influenced by friends, family, or other players, and conformity psychology plays a significant role in purchase decisions. When consumers see people around them buying or using a particular virtual item, they often experience a psychological inclination to imitate or follow suit, affecting their purchasing behavior.

Regarding the social psychological motivations for purchasing virtual items, different adolescents exhibit varying perceptions of how owning virtual items enhances their status in the game. Some adolescents solely view virtual items as tools to enhance their strength without considering the status they bring. Others believe that having rare and expensive skins makes them more popular when others see them, creating a positive image and indirectly leading to greater popularity. After purchasing virtual items, they believe they enhance their gaming experience, providing emotional satisfaction. Two factors contribute to their satisfaction: the aesthetics of the skins and the benefits derived from virtual products surpassing or meeting their expectations, resulting in an improved gaming experience, faster monster hunting, and task completion, saving significant time and bringing joy.

In addition to personal needs and preferences, respondents commonly believe that social interaction is crucial in purchase decisions. They express that when they see friends or other players owning rare virtual items, they feel compelled to purchase, mainly influenced by conformity psychology. Furthermore, respondents mention that when purchasing virtual items, they also consider other players' or friends' opinions and recommendations. This indicates that consumer purchasing decisions are not solely based on personal preferences and needs but are also influenced by the opinions and recommendations of those around them.

Based on the research content of this article, we propose four prospects for the virtual goods industry:

Enhance Personalized and Customized Services: Companies should deeply understand consumers' personalized needs and provide virtual items and services that align with those needs better. By offering customized virtual items or allowing consumers to participate in the design

process, companies can satisfy consumers' pursuit of individuality and uniqueness, meeting consumer demands and further increasing sales.

Strengthening Social Elements: Virtual items serve as tangible commodities and tools for social interaction. Enterprises can incorporate more social elements in product design, such as community engagement and gift-giving, to fulfill consumers' social needs. Simultaneously, paying attention to consumers' social demands and psychological motivations is crucial, thereby creating virtual goods that better align with market requirements.

Reasonable Pricing and Promotional Strategies: Enterprises should thoroughly consider consumers' economic capabilities and purchasing willingness in formulating rational pricing strategies. High-priced virtual items should be associated with superior quality, rarer attributes, or enhanced functionality to attract consumers seeking quality. Additionally, promotional activities like discounts and freebies can be employed to appeal to price-sensitive consumers. It is essential to avoid excessive consumption and blind trend-following. Educational campaigns can help consumers better comprehend the value and significance of virtual items, contributing to the creation of virtual goods that are more aligned with market demands.

Continuous Market Research and Feedback Mechanism: Enterprises should conduct regular market research to understand changes in consumer demands and promptly adjust products and services accordingly. By establishing an effective feedback mechanism to gather consumer evaluations and suggestions, enterprises can gain better insights into market dynamics and changing trends in consumer demand.

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