

**FACTORS INFLUENCING VIRTUAL ITEMS PURCHASE  
INTENTION WITHIN FREE-TO-PLAY ONLINE GAME IN  
THAILAND**



**A THEMATIC PAPER SUBMITTED IN PARTIAL  
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**FACTORS INFLUENCING VIRTUAL ITEMS PURCHASE  
INTENTION WITHIN FREE-TO-PLAY ONLINE GAME IN  
THAILAND**

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September 12, 2021



.....  
Miss Nichamon Laplon  
Candidate

.....  
Assoc. Prof. Nathasit Gertsri,  
Ph.D.  
Advisor

.....  
Assoc. Prof. Winai Wongsurawat,  
Ph.D.  
Chairperson

.....  
Assoc. Prof. Vichita Ractham,  
Ph.D.  
Dean  
College of Management  
Mahidol University

.....  
Nisit Manotungvorapun,  
Ph.D.  
Committee member

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Nichamon Laplon

**FACTORS INFLUENCING VIRTUAL ITEMS PURCHASE INTENTION  
WITHIN FREE-TO-PLAY ONLINE GAME IN THAILAND**

NICHAMON LAPLON 6249186

M.M. (MARKETING AND MANAGEMENT)

THESIS ADVISORY COMMITTEE: ASSOC. PROF. NATTASIT GERDSRI, Ph.D.,  
ASSOC. PROF. WINAI WONGSURAWAT, Ph.D., NISIT  
MANOTUNGVORAPUN, Ph.D.

**ABSTRACT**

In recent times, gaming has become one of the main entertainments for people around the world. One of the most popular games is free-to-play (F2P or FTP) online games. In FTP online game the player can download and access the game without any charge but, the game will sell the in-game items and additional content in the game later. Thus, the game company gains a huge profit from selling in-game items.

The major revenue of selling virtual goods around the world come from the Asia Pacific region especially from China and Southeast Asian country including Thailand. Besides, Nowadays, Game development companies launch many free-to-play online games to the market and many players tend to spend a lot of money to buy virtual goods in those games.

Thus, this research paper is aimed to identify the key factors that influence the virtual goods purchase intention within free-to-play online games in Thailand from the perspective of consumer behavior. In this regard, this paper will focus on the main six independent variables which are social influence, perceived enjoyment, performance expectancy, effort expectancy, customization, and in-game achievements that are estimated to influence in-game items purchase intention. Moreover, the researcher aims to investigate customer insight for increases the purchasing rate in a free-to-play game.

**KEY WORDS:** in-game item/ virtual item/ online game/ free-to-play/ game

40 pages

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# CHAPTER I

## INTRODUCTION

### 1.1 Free-to-Play Online Game and Virtual Items Background

In recent times, gaming has become one of the main entertainments for people around the world. The number of game developer companies grows together with the number of gamers. Both the offline and Online game industry grew rapidly since the 2000s, the most popular one is free-to-play (F2P or FTP) online games. In this free-to-play game, the player can download and access to play for free of charge. However, the game will provide a system called in-game purchases to lure the gamer to use real money to buy virtual goods or in-game items in the game. As a result, the game company gains a huge profit from selling games and add-on content in the game including virtual items in the game.

The growth of the number of internet users and the gaming industry made the Free-to-Play game very popular. The free-to-play game is part of the freemium business model. For the game developer company using the freemium model can make them catch the attention of mass players at first. The game will allow the player to download and access the game for free but, if they prefer to access additional content or special items in the game, they must spend the real money for it. The success of F2P games started in the 2000s with popular Asian MMORPG games like Cabal online, Lineage II and MapleStory and the secret that makes those games successful are it free of charge to start playing the game but, they will sell necessary items in the game that sold by using the real money to gain revenue and profit later. Moreover, in some Free-to-Play games, the player might use the special item to achieve the mission in the game easier and faster or the exclusive content might allow for payable players only.

Nowadays, there are popular types of online games called ‘virtual game community’. Millions of players not only can participate and interact in the game but, they can create another identity in the game. The player can create their character in the online game and be able to customize their character as much as they prefer. However, to customize the game’s character in the virtual world (online game) the player must

buy the virtual items in the game. Virtual goods or virtual items are virtual assets that are tangible and exist in the computer system or virtual world only (Guo & Barnes, 2007). In this context, the virtual items mean the item that is sold by the game developer company, will exist only in the game online. These items may include the hairstyle, clothes, weapons, potion, or other equipment. Moreover, those virtual items will be sold in an in-game store and the player is able to purchase them with real currency.

Virtual items and exclusive additional game content have rapidly become one of the most powerful ways for a game company to gain profit. The most important reason that drives the virtual items market to grow rapidly is a free-to-play model of the game developer company which allows the player to try the game without any cost (Hamari, Alha, Jarvela, Kivikangas, Koivisto, & Paavilainen, 2016). On the other hand, the game company will sell other add-ons items and content in the game to lure the gamer to buy it. For example, the special item that can make your game avatar has a special ability or special preference than other players, and those items will be bought and sold by using real money.

Moreover, due to the rapid growth in gaming entertainment across the world, the game marketer estimated that the value of the virtual items market will reach \$189 billion by 2025. Most of the virtual good's buyers are youngsters, they are the major impact to raise demand for this market. Nowadays, massively multiplayer online games or MMOs generate major revenue from selling virtual items in the game. In MMOs games, there is a game currency (virtual currency) to sell and buy virtual items in the game. Meanwhile, the player might use real money to buy that virtual currency. Besides, the revenue of selling virtual goods around the world the majority of buyers nearly 57% come from the Asia Pacific region especially from China and Southeast Asian country (Adroit, 2019)

## **1.2 Problem Statement**

Due to the online game industry's rapid growth in Thailand, the number of game players in Thailand gradually increases every year. Game development companies launch many free-to-play online games and many players tend to spend a lot of money to buy virtual goods in those games. The game development company is able to gain a

lot of profit from selling virtual goods in the game. For example, one of the most popular Free-to-play online games: Genshin impact reached over \$1billion in mobile revenue within just six months since the game was launched. Every month, the game company will launch many virtual items or special items that will be sold only at specific times to attract the customer to buy it. Moreover, from the past study, the resulting point is that 57% of the overall virtual goods market comes from China and Southeast Asian Countries. Thus, in this study, the researcher would like to identify the factors that influence those players to use real money to purchase goods in free-to-play online games in Thailand.

### **1.3 Research Objective**

The objective of this research is to identify the key factors that influence the virtual goods purchase intention within free-to-play online games in Thailand from the perspective of consumer behavior. Moreover, the researcher aims to investigate customer insight for an improvement that potentially increases the purchasing rate in a free-to-play game.

### **1.4 Research Question**

To achieve the objective of this research, the researcher aims to purpose the main research questions. This research is expected to answer the question that will help the researcher understand the factor that can influence the Thai gamer to purchase virtual goods (in-game items) in free-to-play online games. Thus, to gain an overall understanding of the theories adopted in the studies. The researcher aims to identify the key factors to influence Thai gamers to buy in-game items in a free-to-play online game and identify the most influential factor for players to buy in-game items.

### **1.5 Research Scope**

This research paper will focus on the Thai gamers who have been purchasing virtual goods (in-game items) in free-to-play online games with real money before. To collect reliable and up-to-date data, the researcher will provide a screening question to focus only on the respondent who used virtual goods (in-game items) in free-to-play online games within the past six months. Moreover, the researcher will mostly focus on the game player perspective, considering what motivates them to purchase virtual goods in free-to-play online games.



## **CHAPTER II**

### **LITERATURE REVIEW**

#### **2.1 Free-to-Play Online Games**

Online games can be played by different users who live in different places at the same time. The player can create their own character, participate, and interact with each other within the game. According to Ho and Wu (2011), they concluded that an online game is a virtual world that allows numerous players across the world to gather, participate, and do activities together at the same time by using only an internet connection. In the past, we could play online games through a computer that connected to the internet only, but nowadays, gamers can play online games through several devices (e.g., mobile phone, tablet, and video game console). There are different types of Free-to-Play online games. For example, Action, Adventure, Role-playing games (RPG), Simulation, Sports, and many more. Each type of game online has a unique feature to attract the gamer. Moreover, Modern online games are mostly focused on selling virtual goods to generate more profit and revenue.

Free-to-Play (F2P) online game is a game online that allows the player to download and play the game without any charge from the game developer company. The free-to-Play game has become very popular and caught the attention of many games' players because those games did not require the player to pay for the game or service. However, the Free-to-Play game is based on the freemium business model, firstly they allow the player to play free of charge but, they will sell the items and add-ons content in the game instead to gain revenue and profit. Besides, sometimes the game might be difficult for the unpaid player to achieve mission or success in the game. In other cases, it requires an unpaid player to take a huge time to 'unlock' the content, or sometimes the contents are blocked completely without payment. Moreover, the game company also sells customization items for the player who would like to make their character unique and outstanding.

## 2.2 Virtual Items in Online Game

In a game, the player could purchase additional items, additional contents, special features, or virtual goods through the system call in-game purchases. Selling virtual goods or items in the game online is the most potent method for a game development company to gain revenue and profit easily. Most of the Free-to-Play game players are familiar with buying in-game items and they are also willing to pay for it. (Hamari et al., 2017). The type of in-game items will be separated depending on the genre of the game. Lin and Sun (2007) define virtual goods as two types: functional items and decoration items. Function items can help the player increase the performance and competency of their game character. Decoration items can change the appearance or decorate their character and equipment in the game.

Guo and Barnes (2009) also explain that three main attributes can influence player purchase in-game items: perceived playfulness/enjoyment, performance/character competency, and requirements of the game mission. Perceived playfulness is the game player feels fun and enjoyment during playing the game. Character competency means the capability of the player's character in the online game. Requirements of the quest context are the items in a game that can help the player to achieve a mission in the game easier. Moreover, Lehdonvirta (2009) explains that in-game items in online games are frequently bought with real money, which is subsequently converted into virtual currency and used to purchase virtual products. Although, in other cases, players might purchase virtual products directly without the use of virtual currency.

## 2.3 Social Influence

Setterstrom and Pearson (2010) explain that social influence is one of the significant factors that influence people to make a purchase decision. Sometimes, other people's opinions toward the goods and services can motivate and create the desire to purchase those goods and services. Before making a purchase decision, people tend to believe in a recommendation from others. Social motivation has been found to be associated with spending. Most of the game players tend to spend the money to buy

virtual goods in the game to belong to the group (e.g., My friend already owned this item then I want it as well) The relationship between social influence and purchasing has a deep connection. Wohn (2015) refers that people who have frequently presented their online identity are more likely to be motivated by other recommendations.

Social influence also refers to influence from others to make people perform the behavior. From the past research, there is much research that explains how social influence drives in-game items purchasing behavior. Hamari (2015) found that social influence has a strong effect to motivate the player to purchase in-game items. Hsiao & Chen (2016) concluded that social influence has a positive effect on game loyalty in mobile games as well. Depending on the genre of the game, there is a different effect in social influence toward in-game items purchase intention for different types of games. In a game where multiplayer and player interaction are emphasized, social influence may play a significant impact in a player's decision to purchase the game.

## **2.4 Perceived Enjoyment**

According to Naradipa (2020), perceived enjoyment is a positive emotion received from doing any performance that makes us feel pleasure. It might be a specific activity that can motivate and emphasize pleasure and satisfaction. Venkatesh (2000) concluded perceived enjoyment as a pleasure and joy that receive from performing the activity and these activities have fun and joy on their own. Wang and Lee (2020) describe perceived enjoyment as internal motivation. Internal motivations are the degree of perceived pleasure and joy in an online game. It can identify everyone's satisfaction with virtual world interaction. In the virtual world perceived enjoyment can reflect user feeling and the degree of satisfaction with the activity. In playing an online game, experiencing fun and enjoyment in the game is the main purpose for the game player. In this context, perceived enjoyment also refers to the enjoyment of the game player toward overall enjoyment from playing an online game.

## **2.5 Performance Expectancy**

Performance expectancy refers to the belief of each individual person that the system or application can help them increase job performance (Venkatesh et al., 2003). In this context, performance expectancy means how much the player believes that purchasing in-game items will help them increase in-game performance and competency (Bleize & Antheunis 2016). Some game players believe that purchasing in-game items can help them play the game better and easier than before. This is also referred to a functional item purchasing that can increase character competency. Moreover, Guo & Barnes (2011) found that performance expectancy has a positive influence on in-game items' purchase intention. The player believes that using in-game items can help them increase gaining performance and achieve the mission in the game. Meanwhile, performance expectancy is also called character competency as well. Park & Lee (2011) also found that character competency is related to improving in-game character performance as well. Moreover, the study also found a significant correlation between in-game item purchase intention and performance expectancy.

## **2.6 Effort Expectancy**

Effort expectancy refers to the ease or friendly of the system for the user to use. In the past study, Guo & Barnes (2011) collected evidence from virtual world second life and found that the effort expectancy also has a positive effect on purchase intention as well. In this context, effort expectancy means how easy for the game player to purchase in-game items in an online game. Moreover, effort expectancy also refers to how easy it is for the player to pay for virtual goods in an online game, including with a payment method, the reliability of the channel, and the convenience of the payment channel.



## **2.7 Customization**

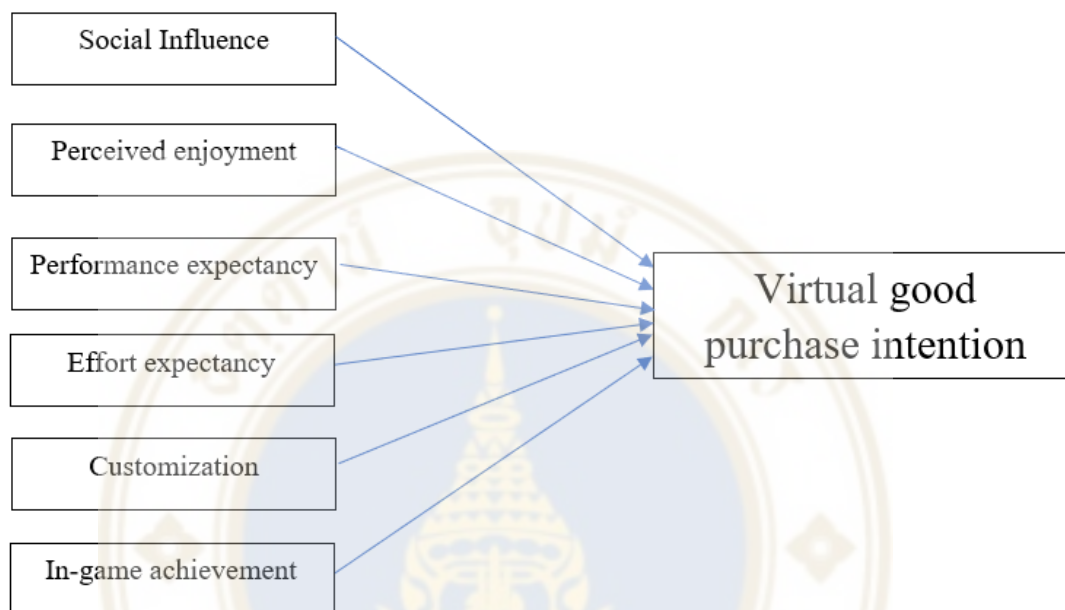
In the online game, the player can customize their avatar's preference. In massively multiplayer online games (MMOs), one of the popular functions among the player is customization system. Several studies found that the avatar or character decorative function can increase player's gaming experience, increase positive emotion during playing game and increase player loyalty to the game. The game player has their own desire to customize their character in online game based on their goals and the opportunities that the game provide. For example, the player might decorate their character to reflect their own aesthetic views and style (Turkay & Kinzer, 2016). The type of customization items depends on the genre of the game but, most of the items will be related to character appearance customization such as hairstyle, clothes, or new avatar. In the past research, Bailey, Wise and Bolls (2009) also found that customization system in the game has strongly affect to the player's emotional during playing game, the player be funnier and more enjoyable.

## **2.8 In-Game Achievement**

In the online game, the player can customize their avatar's preference. In massively multiplayer online games (MMOs), one of the popular functions among the player is a customization system. Several studies found that the avatar or character decorative function can increase a player's gaming experience, increase positive emotion during playing game and increase player loyalty to the game. The game player has their own desire to customize their character in online game based on their goals and the opportunities that the game provide. For example, the player might decorate their character to reflect their own aesthetic views and style (Turkay & Kinzer, 2015). The type of customization items depends on the genre of the game but, most of the items will be related to character appearance customization such as hairstyle, clothes, or new avatar. In the past research, Bailey, Wise, and Bolls (2009) also found that the customization system in the game has strongly affected the player's emotions during playing the game, the player feels funnier and more enjoyable

## 2.6 The Conceptual Framework

The conceptual framework was adapted from the theoretical framework of technology acceptance model (TAM). This framework focuses on identifying the factors that influence virtual good purchasing on online games from each individual variable.



**Figure 2.1 Conceptual Framework of Factors that Influence Purchase Intention within Free-to-Play Online Games in Thailand**

This paper will focus on the main six independent variables which are social influence, perceived enjoyment, performance expectancy, effort expectancy, customization and in-game achievements that influence the dependent variable, Virtual good purchase intention.

## **CHAPTER III**

### **METHODOLOGY**

The methodology of this study will use quantitative methods to answer the study questions in terms of identifying the key factor that influences the players to purchase virtual goods in free-to-play online games.

#### **3.1 Research Instrument**

Based on the literature review and conceptual framework of in-game items purchase intention, the questionnaires and interview questions were developed from the framework. The questionnaire questions comprise four main sections as shown below.

Section I: Screening question: The researcher would like to find out the right target respondent by asking them a screening question such as Did you buy a virtual goods on online game before?

Section II: General question:

Section III: Specific question: Factors that influence the virtual goods purchase intention of online games. The questions were designed to determine the factors that are significant to influencing the consumer's degree of agreement.

Section IV: Demographic question: This part will require the personal information of the respondents such as age, gender, education, and income.

For measurement in the questionnaire, using 5 points Likert-type scale which rates by number 1 to 5 to identify how each factor from the conceptual framework affects the perspective of an individual respondent.

1 means Strongly Disagree and 5 means Strongly Agree.

### **3.2 Population and Sample Size**

The target population of this research is Thai people, all ages, and all genders who play games and used to buy virtual goods in games. In addition, the respondents must purchase the virtual goods on online games within the past 6 months. This research aims to identify the variable factor that influences the intention to purchase virtual goods on online games.

To collect reliable and meaningful data for the study, the researcher plans to select the sample size for this study at 200 at the minimum.

### **3.3 Data Collection**

The questionnaires will be distributed through online survey questionnaires. The respondents are asked to fill the questionnaire via Google questionnaire. The questionnaire's link was distributed to Social Network Service (SNS) or a popular online community group among people who love playing games. The respondents will be asked the screening question to acquire the right target to participate. However, the questionnaire will be filled when the respondent is ready and comfortable to complete, it depends on the participant's decision whether to complete all the questions or not with respect.

### **3.4 Data Analysis**

After collecting quantitative data, the raw data will be transferred from the online survey into Excel format and analyzed by using IBM Statistical Package for Social Science (SPSS) program to acquire both descriptive and inferential statistics. In this study, the researcher will use three main types of analysis to analyze the raw data including.

Descriptive analysis will be used to describe respondent's personal information by providing a table of summary which contains frequency, percentage, mean, and standard.

Correlation analysis will be used to explore and measure the relationship between two individual variables. In this research paper, the correlation analysis will be used to analyze the relationship between six independent variables: social influence, perceived enjoyment, performance expectancy, effort expectancy, customization, and in-game achievements.

Regression analysis will be used to identify how much the independent variable influences the dependent variable.

### 3.5 Reliability Test

To ensure the reliability and internal consistency, Cronbach's alpha will be adopted to identify how closely related items within each factor. The range of Cronbach's alpha can be varied from 0 to 1, and it should be at least 0.6 to identify the significant relation between items and the efficiency of how the respondents are able to answer constantly.

**Table 3.1 Reliability Test**

| Reliability Statistics |            |
|------------------------|------------|
| Cronbach's Alpha       | N of Items |
| .768                   | 7          |

The result of Cronbach's alpha from reliability test of each factor shown that the overall of all items is .768. This is mean that all items represent for each factor has a great reliability as shown on table 3.1.

## CHAPTER IV

### DATA ANALYSIS

After collecting the data from the survey there are 313 respondents who give the response. However, 34.5 percent or 108 of respondents never purchased virtual goods or in-game items in the past 6 month. Thus, this research collects the data from 65.5% or 205 respondents who have an experience of purchasing in-game items in the past 6 month only. The researcher group respondents based on their personal information which are age, gender, platform that they usually use on the internet, education level and income. The result will be explained for each analysis one by one, along with the table by using SPSS analysis.

#### 4.1 Respondent Profile

**Table 4.1 Descriptive Statistics of the Respondent Profile**

| Measure          | Item         | Frequency | Percent% |
|------------------|--------------|-----------|----------|
| <b>Gender</b>    | Male         | 106       | 51.7     |
|                  | Female       | 75        | 36.6     |
|                  | LGBTQAI+     | 24        | 11.7     |
|                  | Total        | 205       | 100.0    |
| <b>Age range</b> | Less than 18 | 6         | 2.9      |
|                  | 18-24        | 72        | 35.1     |
|                  | 25-40+       | 127       | 62.0     |
|                  | Total        | 205       | 100.0    |

**Table 4.1 Descriptive Statistics of the Respondent Profile (cont.)**

| <b>Measure</b>         | <b>Item</b>                    | <b>Frequency</b> | <b>Percent%</b> |
|------------------------|--------------------------------|------------------|-----------------|
| <b>Platform</b>        | Facebook                       | 110              | 53.7            |
|                        | Instagram                      | 24               | 11.7            |
|                        | Twitter                        | 34               | 16.6            |
|                        | YouTube                        | 37               | 18.0            |
|                        | Total                          | 205              | 100.0           |
| <b>Education level</b> | Secondary school or equivalent | 16               | 7.8             |
|                        | Bachelor                       | 127              | 62.0            |
|                        | Master or higher               | 62               | 30.2            |
|                        | Total                          | 205              | 100.0           |
| <b>Income</b>          | Less than 9,000 THB            | 20               | 9.8             |
|                        | 9,001-15,000 THB               | 24               | 11.7            |
|                        | 15,001 - 25,000 THB            | 52               | 25.4            |
|                        | 25,001 - 50,000 THB            | 72               | 35.1            |
|                        | More than 50,000 THB           | 37               | 18.0            |
|                        | Total                          | 205              | 100.0           |

From table 4.1, it demonstrates general information of respondents which are gender, age range, the platform that they usually use on the internet, education level, and income as follows.

Gender: the survey showed that from 205 respondents, 51.7 percent or 106 respondents were male, 36.6 percent or 75 respondents were female, and 11.7 percent or 24 respondents were LGBTQAI+. The result of gender in this study will be further conduct testing and analysis.

Age: most of the respondents are between 25 to higher than 40 years old accounting for 62 percent or 127 respondents. Followed by the age of 18-24 years old at 35.1 percent or 72 respondents and the people who are less than 18 years old at 2.9 percent or 6 respondents. According to the survey, it can be implied that the age group of 25-40+ years-old population has potential to be a heavy spender target for the in-game items purchasing.

Platform: most of the internet platforms that the respondent using is Facebook with 53.7 percent or 110 respondents. Followed by YouTube at 18 percent or

38 respondents, Twitter at 16.6 percent or 34 respondents and Instagram at 11.7 percent or 24 respondents.

Education: Majority of respondents who owned a bachelor's degree contributed 62 percent or 127 respondents. Followed by master's degree or higher at 30.2 percent or 62 respondents. The smallest group is secondary school or equivalent with 7.8 percent or 16 respondents.

Income: majority of respondents have monthly income in the range of 25,001 - 50,000 THB contributed 35.1 percent or 72 respondents. Followed by 25,001 - 50,000 Baht at 25.4 percent or 52 respondents, more than 50,000 THB at 18 percent or 37 respondents, 9,001-15,000 THB at 11.7 percent or 24 respondents and the smallest group is the people who have income less than 9,000 THB at 9.8 percent or 20 respondents.

## 4.2 In-game Items Purchase Behavior

The information of the sample group is to portray purchase behavior and preference and to recommend the appropriate strategies which can be applied from this study. The data in this section will be present in the form of frequency distribution and percentage distribution. The data of the respondents are summarized in terms of the approximate value of purchasing per month and game category preference.

**Table 4.2 Descriptive Statistics of the Respondent In-game Items Purchase Behavior**

| Measure   | Item                | Frequency | Percent% |
|---|---------------------|-----------|----------|
| <b>How much do you spend on gaming per month? (Approximate value of purchasing per month)</b> | Less than 100 THB   | 22        | 10.7     |
|   | 101-500 THB         | 83        | 40.5     |
|   | 501-1,000 THB       | 56        | 27.3     |
|   | 1,001-2000 THB      | 19        | 9.3      |
|   | More than 2,000 THB | 25        | 12.2     |
|   | Total               | 205       | 100.0    |



**Table 4.2 Descriptive Statistics of the Respondent In-game Items Purchase Behavior (cont.)**

| Measure  | Item                                   | Frequency | Percent% |
|--|--|-----------|----------|
| <b>What genre of game do you mostly purchase in-game items? (Game category preference)</b> | RPG (Role playing game)                | 59        | 28.8     |
|  | MOBA (Multiplayer Online Battle Arena) | 53        | 25.9     |
|  | FPS (First-person Shooter)             | 25        | 12.2     |
|  | Strategy                               | 13        | 6.3      |
|  | Survival                               | 31        | 15.1     |
|  | Puzzle                                 | 10        | 4.9      |
|  | Others                                 | 14        | 6.8      |
|  | Total                                  | 205       | 100.0    |

From table 4.2 it showed the respondent's approximate value of purchasing for each month. Most of the respondents with 40.5 percent or 83 people spending 101-500 THB per month. Followed by 501-1,000 THB at 27.3 percent or 56 respondents, more than 2,000 THB at 12.2 percent or 25 respondents, less than 100 THB at 10.7 percent or 22 respondents and the smallest group is 1,001-2000 THB at 9.3 percent or 25 respondents.

Table 4.2 also demonstrated the game category preference. The genre of game that most of the respondents spend on is RPG (Role playing game) contributed 28.8 percent or 59 respondents. Followed by MOBA (Multiplayer Online Battle Arena) with 25.9 percent or 53 respondents, Survival at 15.1 percent or 31 respondents, FPS (First-person Shooter) at 12.2 percent or 25 respondents, other genre at 6.8 percent or 14 respondents, strategy at 6.3 percent or 13 respondents and the last one is puzzle at 4.9% or 10 respondents.

### 4.3 ANOVA Analysis

ANOVA analysis is a statistical method that is used for testing for three or more sample means that came from the same or equal populations. It is a way to find

out whether survey or experiment results have significant differences between the means of three or more independent groups.

**Table 4.3 ANOVA Analysis (Gender)**

| Multiple Comparisons  |            |            |                       |            |       |                         |             |
|---|------------|------------|-----------------------|------------|-------|-------------------------|-------------|
| Bonferroni  |            |            |                       |            |       |                         |             |
| Dependent Variable  | (I) Gender | (J) Gender | Mean Difference (I-J) | Std. Error | Sig.  | 95% Confidence Interval |             |
|   |            |            |                       |            |       | Lower Bound             | Upper Bound |
| PJ1: I enjoy the game more when using newly in-game items.                      | Male       | Female     | -.301*                | .114       | .027  | -.58                    | -.03        |
|   |            | LGBTQAI+   | .054                  | .171       | 1.000 | -.36                    | .47         |
|   | Female     | Male       | .301*                 | .114       | .027  | .03                     | .58         |
|   |            | LGBTQAI+   | .355                  | .177       | .138  | -.07                    | .78         |
|   | LGBTQAI+   | Male       | -.054                 | .171       | 1.000 | -.47                    | .36         |
|   |            | Female     | -.355                 | .177       | .138  | -.78                    | .07         |
| PI2: I will definitely purchase in-game items in the online game in the future. | Male       | Female     | -.095                 | .123       | 1.000 | -.39                    | .20         |
|   |            | LGBTQAI+   | .383                  | .184       | .116  | -.06                    | .83         |
|   | Female     | Male       | .095                  | .123       | 1.000 | -.20                    | .39         |
|   |            | LGBTQAI+   | .478*                 | .191       | .039  | .02                     | .94         |
|   | LGBTQAI+   | Male       | -.383                 | .184       | .116  | -.83                    | .06         |
|   |            | Female     | -.478*                | .191       | .039  | -.94                    | -.02        |

\*. The mean difference is significant at the 0.05 level.

According to table 4.3, there are different opinions between males and females toward the enjoyment when using newly in-game items and the different degrees of agreement between females and LGBTQAI+ towards the intention to purchase in-game items in the future.

**Table 4.4 ANOVA Analysis (Age)****Multiple Comparisons**

| Bonferroni  |              |              |                       |            |       |                         |             |
|---|--------------|--------------|-----------------------|------------|-------|-------------------------|-------------|
| Dependent Variable  | (I) Age      | (J) Age      | Mean Difference (I-J) | Std. Error | Sig.  | 95% Confidence Interval |             |
|   |              |              |                       |            |       | Lower Bound             | Upper Bound |
| I will purchase in-game items that influencers (Professional game players, Game steamer, Game Caster, or Net idols) review. | Less than 18 | 18-24        | .194                  | .555       | 1.000 | -1.15                   | 1.53        |
|   |              | 25-40+       | .759                  | .546       | .499  | -.56                    | 2.08        |
|   | 18-24        | Less than 18 | -.194                 | .555       | 1.000 | -1.53                   | 1.15        |
|   |              | 25-40+       | .564*                 | .193       | .011  | .10                     | 1.03        |
|   | 25-40+       | Less than 18 | -.759                 | .546       | .499  | -2.08                   | .56         |
|   |              | 18-24        | -.564*                | .193       | .011  | -1.03                   | -.10        |

\*. The mean difference is significant at the 0.05 level.

According to table 4.4, there is a significant difference in the influence of influencers for in-game items purchase intention between the respondent's age between 18-24 years old and 25-40+ years old.

**Table 4.5 ANOVA Analysis (Platform)****Multiple Comparisons**

| Bonferroni  |              |              |                       |            |       |                         |             |
|---|--------------|--------------|-----------------------|------------|-------|-------------------------|-------------|
| Dependent Variable  | (I) Platform | (J) Platform | Mean Difference (I-J) | Std. Error | Sig.  | 95% Confidence Interval |             |
|   |              |              |                       |            |       | Lower Bound             | Upper Bound |
| I will purchase in-game items that can change the appearance of my character in an online game. | Twitter      | Facebook     | .261                  | .198       | 1.000 | -.27                    | .79         |
|   |              | Instagram    | .338                  | .269       | 1.000 | -.38                    | 1.06        |
|   |              | YouTube      | .723*                 | .240       | .018  | .08                     | 1.36        |
|   | YouTube      | Facebook     | -.462                 | .192       | .102  | -.97                    | .05         |
|   |              | Instagram    | -.385                 | .265       | .885  | -1.09                   | .32         |
|   |              | Twitter      | -.723*                | .240       | .018  | -1.36                   | -.08        |

\*. The mean difference is significant at the 0.05 level.

**Multiple Comparisons**

| Bonferroni  |              |              |                       |            |       |                         |             |
|---|--------------|--------------|-----------------------|------------|-------|-------------------------|-------------|
| Dependent Variable  | (I) Platform | (J) Platform | Mean Difference (I-J) | Std. Error | Sig.  | 95% Confidence Interval |             |
|   |              |              |                       |            |       | Lower Bound             | Upper Bound |
| I think online games should have various payment methods for in-game items purchasing | Instagram    | Facebook     | -.239                 | .097       | .090  | -.50                    | .02         |
|   |              | Twitter      | -.316*                | .115       | .039  | -.62                    | -.01        |
|   |              | YouTube      | -.213                 | .113       | .369  | -.51                    | .09         |
|   | Twitter      | Facebook     | .078                  | .085       | 1.000 | -.15                    | .30         |
|   |              | Instagram    | .316*                 | .115       | .039  | .01                     | .62         |
|   |              | YouTube      | .103                  | .103       | 1.000 | -.17                    | .38         |

\*. The mean difference is significant at the 0.05 level.

According to table 4.5, there are different opinions toward the purchase intention of the character's appearance customization item between Twitter and YouTube users. Another one is a significantly different opinion towards the variety of payment methods between Instagram and Twitter users.

**Table 4.6 ANOVA Analysis (Monthly Income)**

| Multiple Comparisons   |                     |                      |                       |            |       |                         |             |
|--|---------------------|----------------------|-----------------------|------------|-------|-------------------------|-------------|
| Bonferroni   |                     |                      |                       |            |       |                         |             |
| Dependent Variable   | (I) Monthly income  | (J) Monthly income   | Mean Difference (I-J) | Std. Error | Sig.  | 95% Confidence Interval |             |
|  |                     |                      |                       |            |       | Lower Bound             | Upper Bound |
| I think the in-game items purchasing process should be quick and smooth.                 | Less than 9,000 THB | 9,001-15,000 THB     | .367                  | .204       | .735  | -.21                    | .95         |
|  |                     | 15,001 - 25,000 THB  | .546*                 | .177       | .023  | .04                     | 1.05        |
|  |                     | 25,001 - 50,000 THB  | .283                  | .170       | .974  | -.20                    | .77         |
|  |                     | More than 50,000 THB | .220                  | .187       | 1.000 | -.31                    | .75         |
|  | 15,001 - 25,000 THB | Less than 9,000 THB  | -.546*                | .177       | .023  | -1.05                   | -.04        |
|  |                     | 9,001-15,000 THB     | -.179                 | .166       | 1.000 | -.65                    | .29         |
|  |                     | 25,001 - 50,000 THB  | -.263                 | .122       | .331  | -.61                    | .08         |
|  |                     | More than 50,000 THB | -.326                 | .145       | .255  | -.74                    | .09         |
| I will purchase in-game items that give me a chance to be a top-rank player in the game. | 15,001 - 25,000 THB | Less than 9,000 THB  | .046                  | .340       | 1.000 | -.92                    | 1.01        |
|  |                     | 9,001-15,000 THB     | -.154                 | .319       | 1.000 | -1.06                   | .75         |
|  |                     | 25,001 - 50,000 THB  | -.779*                | .235       | .011  | -1.45                   | -.11        |
|  |                     | More than 50,000 THB | -.688                 | .278       | .142  | -1.48                   | .10         |
|  | 25,001 - 50,000 THB | Less than 9,000 THB  | .825                  | .327       | .123  | -.10                    | 1.75        |
|  |                     | 9,001-15,000 THB     | .625                  | .305       | .415  | -.24                    | 1.49        |
|  |                     | 15,001 - 25,000 THB  | .779*                 | .235       | .011  | .11                     | 1.45        |
|  |                     | More than 50,000 THB | .091                  | .261       | 1.000 | -.65                    | .83         |

\*. The mean difference is significant at the 0.05 level.

**Table 4.6 ANOVA Analysis (Monthly Income) (cont.)**

| Multiple Comparisons   |                     |                      |                       |            |       |                         |             |
|--|---------------------|----------------------|-----------------------|------------|-------|-------------------------|-------------|
| Bonferroni   |                     |                      |                       |            |       |                         |             |
| Dependent Variable   | (I) Monthly income  | (J) Monthly income   | Mean Difference (I-J) | Std. Error | Sig.  | 95% Confidence Interval |             |
|  |                     |                      |                       |            |       | Lower Bound             | Upper Bound |
| I will purchase in-game items that help me earn in-game rewards/trophies are easier. | 15,001 - 25,000 THB | Less than 9,000 THB  | -.373                 | .320       | 1.000 | -1.28                   | .54         |
|  |                     | 9,001- 15,000 THB    | -.381                 | .300       | 1.000 | -1.23                   | .47         |
|  |                     | 25,001 - 50,000 THB  | -.715*                | .221       | .015  | -1.34                   | -.09        |
|  |                     | More than 50,000 THB | -.626                 | .262       | .177  | -1.37                   | .12         |
|  | 25,001 - 50,000 THB | Less than 9,000 THB  | .342                  | .308       | 1.000 | -.53                    | 1.21        |
|  |                     | 9,001- 15,000 THB    | .333                  | .287       | 1.000 | -.48                    | 1.15        |
|  |                     | 15,001 - 25,000 THB  | .715*                 | .221       | .015  | .09                     | 1.34        |
|  |                     | More than 50,000 THB | .089                  | .246       | 1.000 | -.61                    | .79         |

\*. The mean difference is significant at the 0.05 level.

According to table 4.6, there are different opinions toward a smooth purchasing process between respondents who have a monthly income between Less than 9,000 THB and 15,001 - 25,000 THB. The different opinions towards the items that help to be a top player and the items that help earn in-game rewards/trophies easier between the respondents who have 15,001 - 25,000 THB and 25,001 - 50,000 THB.

#### 4.4 Factor Analysis

In this research, the researcher performed a factor analysis and got 7 new sets of variables, separated each group by the value shown in each column in the table "Rotated Component Matrix". The researcher creates a name for each group as followings:

1. Perceived enjoyment
2. Customization
3. Performance expectancy
4. In-game achievement
5. Social influence
6. Reliability and variety of payment methods

## 7. Easy payment process

**Table 4.7 Factor Analysis**

| Rotated Component Matrix   |           |      |      |   |   |   |   |
|--|-----------|------|------|---|---|---|---|
|  | Component |      |      |   |   |   |   |
|  | 1         | 2    | 3    | 4 | 5 | 6 | 7 |
| PJ3: When using newly in-game items I find the game more exciting.   | .894      |      |      |   |   |   |   |
| PJ5: Using newly in-game items makes the gaming funnier.   | .883      |      |      |   |   |   |   |
| PJ4: Using newly in-game items makes me want to spend more time on the game.                               | .840      |      |      |   |   |   |   |
| PJ2: I am really into the game more when using newly in-game items.  | .831      |      |      |   |   |   |   |
| PJ1: I enjoy the game more when using newly in-game items.   | .771      |      |      |   |   |   |   |
| CZ3: I will purchase in-game items to decorate my character and equipment.                                 |           | .837 |      |   |   |   |   |
| CZ5: I always purchase in-game items related to in-game decorations and accessories.                       |           | .836 |      |   |   |   |   |
| CZ2: I will purchase in-game items that can change the appearance of my character in an online game.       |           | .820 |      |   |   |   |   |
| CZ4: I will purchase in-game items that make my character fashionable.                                     |           | .811 |      |   |   |   |   |
| CZ1: I will purchase in-game items that add special effects to my characters.                              |           | .665 |      |   |   |   |   |
| PE5: I always purchase in-game items that can enhance my character's performance.                          |           |      | .807 |   |   |   |   |
| PE1: I will purchase in-game items that can enhance the performance of my character online.                |           |      | .772 |   |   |   |   |
| PE2: I will purchase new characters in the game to get new skills.   |           |      | .767 |   |   |   |   |
| PE3: I will purchase in-game items that make my character abilities superior to other players' characters. |           |      | .767 |   |   |   |   |
| PE4: I will purchase in-game items that can help me get a higher rank or score than the previous time.     |           |      | .752 |   |   |   |   |



## 4.5 Multiple Linear Regression Analysis

The multiple linear regression technique was chosen to analyze the relationship between the independent variables and the dependent variable, in order to find a result for the research question, and this part also aims for testing the hypothesis whether the independent variables are going to affect in-game items purchase intention in online games in Thailand or not.

**Table 4.8 Multiple Linear Regression Analysis**

| Model Summary |                   |          |                   |                            |
|---------------|-------------------|----------|-------------------|----------------------------|
| Model         | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1             | .584 <sup>a</sup> | .342     | .318              | .65079                     |

a. Predictors: (Constant), Easy payment process, Perceived enjoyment, In-game achievement, Reliable and various payment method, social influence, Customization, Performance expectancy

From table 4.8, after run regression analysis which contains 7 independent variables which are perceived enjoyment, customization, performance expectancy, in-game achievement, social influence, reliable and various payment methods, and easy payment process. As a result, the R square was .342 which represented that the model could be used to explain 34.2 percent of the proportion of variance of the dependent variable, in-game items purchase intention in online games in Thailand.

However, due to the multiple variables were added in this model, considering only R square might not be able to expect the most accuracy, so the adjusted R square was also used to be another indicator here as the result .318 or 31.8 percent, which could explain how well the dependent variable could be predicted by the independent variables in this model as well.



**Table 4.9 ANOVA Overall Significance of the Model**

| ANOVA <sup>b</sup> |            |                |     |             |        |                   |
|--------------------|------------|----------------|-----|-------------|--------|-------------------|
| Model              |            | Sum of Squares | df  | Mean Square | F      | Sig.              |
| 1                  | Regression | 43.278         | 7   | 6.183       | 14.598 | .000 <sup>a</sup> |
|                    | Residual   | 83.434         | 197 | .424        |        |                   |
|                    | Total      | 126.712        | 204 |             |        |                   |

a. Predictors: (Constant), Easy payment process, Perceived enjoyment, In-game achievement, Reliable and various payment methods, Social influence, Customization, Performance expectancy  
 b. Dependent Variable: Purchase intention

As presented on Table 4.9, the analysis of variance or ANOVA was used to test an overall significance of the model, as p-value was lower than .05, it indicated that this model was significant and could be used to predict the dependent variable.

**Table 4.10 Regression Coefficients**

| Coefficients <sup>a</sup> |  |                             |            |                           |       |             |
|---------------------------|--|-----------------------------|------------|---------------------------|-------|-------------|
| Model                     |  | Unstandardized Coefficients |            | Standardized Coefficients | t     | Sig.        |
|                           |  | B                           | Std. Error | Beta                      |       |             |
| 1                         | (Constant)                                 | -.130                       | .601       |                           | -.216 | .829        |
|                           | Perceived enjoyment                        | .163                        | .077       | .139                      | 2.127 | .035        |
|                           | Customization                              | .243                        | .063       | <b>.283</b>               | 3.887 | <b>.000</b> |
|                           | Performance expectancy                     | .069                        | .064       | .083                      | 1.075 | .283        |
|                           | In-game achievement                        | .062                        | .066       | .073                      | .932  | .353        |
|                           | Social influence                           | .071                        | .053       | .096                      | 1.334 | .184        |
|                           | Reliability and variety of payment methods | .405                        | .135       | <b>.199</b>               | 3.003 | <b>.003</b> |
|                           | Easy payment process                       | .022                        | .079       | .018                      | .275  | .783        |

a. Dependent Variable: Purchase intention

The result of the regression coefficients according to Table 4.10 suggested that there were only customization and Reliable and various payment methods which were statistically significant below .005.

To summarize, customization is the factor that has matter the most in terms of influencing in-game items purchase intention. It has the highest value with Beta = 0.283, P = .000. Followed by reliability and variety of payment methods with Beta =

.199,  $P = .003$ . The result can indicate that the gamers who love to customize their character are likely to have higher purchase intention toward in-game items. Moreover, the gamers also prefer online games that provide reliability and variety of payment methods as well.

## 4.6 Cross Tabulation

**Table 4.11 Approximate Value of Purchasing per Month \* Gender Crosstabulation**

**Approximate value of purchasing per month \* Gender Crosstabulation**

| Count                                      |                     | Gender |        |          | Total |
|--|---------------------|--------|--------|----------|-------|
|  |                     | Male   | Female | LGBTQAI+ |       |
| How much do you spend on gaming per month? | Less than 100 THB   | 10     | 8      | 4        | 22    |
|  | 101-500 THB         | 38     | 39     | 6        | 83    |
|  | 501-1,000 THB       | 34     | 15     | 7        | 56    |
|  | 1,001-2000 THB      | 10     | 8      | 1        | 19    |
|  | More than 2,000 THB | 14     | 5      | 6        | 25    |
| <b>Total</b>                               |                     | 106    | 75     | 24       | 205   |

From table 4.11 we can see that male gamers tend to spend more on gaming than other genders. Most of the male spend more than 500 THB per month to purchase in-game items.

**Table 4.12 Approximate Value of Purchasing per Month \* Age Crosstabulation**

**Approximate value of purchasing per month \* Age Crosstabulation**

Count

|  |                     | Age          |           |            | Total      |
|--|---------------------|--------------|-----------|------------|------------|
|  |                     | Less than 18 | 18-24     | 25-40+     |            |
| How much do you spend on gaming per month? | Less than 100 THB   | 0            | 7         | 15         | 22         |
|  | 101-500 THB         | 4            | 33        | 46         | 83         |
|  | 501-1,000 THB       | 2            | 18        | 36         | 56         |
|  | 1,001-2000 THB      | 0            | 9         | 10         | 19         |
|  | More than 2,000 THB | 0            | 5         | 20         | 25         |
| <b>Total</b>                               |                     | <b>6</b>     | <b>72</b> | <b>127</b> | <b>205</b> |

According to table 4.12, we can conclude that people who ages between 25-40+ years old have more purchasing power than other age group

## **CHAPTER V**

### **CONCLUSION & RECOMMENDATION**

#### **5.1 Conclusion**

According to the result from data analysis, the researcher can explore and gain a better understanding of factors that influence Thai gamers to purchase in-game items in the Free-to-Play online game and this result can lead to the answer to the research questions. There are two key highlights factors that Thai people are influenced by and give priority to. The first factor that has the most positive influence on in-game items' purchase intention is customization. This means that for the Thai gamer they prefer and tend to spend money to buy customized items (hairstyles, clothes, accessories, or other decoration items) more than other types of items. Followed by the second factor which is reliability and variety of payment methods. From the result, we can conclude that a gamer who likes to customize and decorate their character and equipment has a greater motivation to purchase in-game items. Moreover, Thai gamers also pay attention to the security of the payment system and the various payment methods (credit/debit card, cash card, internet banking, e-wallet, etc.). This means if the in-game payment is not secure enough, they might not spend on the items at all.

However, perceived enjoyment, performance expectancy, In-game achievement, social influence, and Easy payment process appeared to have no significant to in-game items purchase intention. The incentives of the five variables are not delivered strong enough to motivate users to make a purchase. This case means, those mentioned five independent variables do not affect to Thai's gamer in-game items purchase intention.

Thus, the game developer company in Thailand should pay attention to develop and launch customized items and functions. Besides, the company should provide reliable and various payment methods because the gamers tend to purchase items in the game that are secure and reliable, including a variety of payment methods (credit/debit card, cash card, internet banking, e-wallet, etc.).

Moreover, from the analysis result, we can conclude that most Thai gamers are males. The majority of Thai gamers who spend on in-game items are aging between 25-40 years old. The popular internet platform among Thai gamers is Facebook. Besides, the most potential target of in-game items purchasers in Thailand are males aged between 25-40 years old who is the top spender for in-game items purchasing.

## 5.2 Recommendation

From the data analysis, the researcher decided to choose the Marketing Strategy (4P's) which are product, price place, and promotion to recommend a game development company.

**Product:** from the research result, customization is the most influential factor to make the gamer purchase in-game items. This means most gamers are likely to customize their character. They prefer their character to be fashionable and beautiful. Thus, the game company or game developer should invent the items that can customize the player's character or the items that can decorate their equipment more than other types of items. For example, the items that can change the appearance of the character such as hairstyle, clothes, or accessories. Moreover, the game company should provide reliable and various payment methods as much as possible. The Thai gamer also gives priority to the security of the payment system and the variety of payment methods. If the payment process is not secure enough, it might decrease gamer's in-game items purchase intention as well.

**Price:** based on the research result, most gamers tend to spend 101-500 THB per month to purchase in-game items, then the price of the items should not exceed 500 THB to catch the attention of the majority group. However, the game company can gain more profit by launching special or limited-edition items to add more value (High price) and drive the gamer's desire to own those items.

**Place:** The game company should focus on online channels mostly. From the data collected, we can see that the popular internet platform among Thai gamers is Facebook. Thus, the top selection for the social network platform is Facebook, since it is one of the channels that have the potential to capture the majority segments of consumers available in the market. Moreover, through the usage of Facebook, there are

additional features like Facebook Ads which would help boost the advertisement of the product to users of the platform. Besides, most game players tend to follow the game's Facebook page. In this case, to reach the main potential target group, the game company can use Facebook ads to specify the target group for the in-game item. For example, from the cross-tabulation analysis, we will see that most of the Thai gamers who spend the most on in-game items are males aged between 25-40 years old. Then the game company should set the main target group based on that information. However, other social platforms like YouTube and Twitter also have the potential to be the channel for advertising the newly in-game items as well.

Promotion: the promotion is certainly important for new products to become exposed to the public during the initial launching period. The game company can use the seasonal discount to lure and catch the customer's attention. For example, the new item will be sold at a 30 percent discount for the first seven days only or providing a discount for a special event such as Christmas or Songkran festival.

### **5.3 Limitation and Future Research**

The limitation of this study would be the size of the respondents, the sample size of this research was 205 which is quite small due to time limitation. To fully identify and understand the effective factors that influence Thai gamers to purchase in-game items, the questionnaire should be collected from more respondents from all over Thailand. The second limitation is most of the respondents are playing free-to-play online games (MOBA, FPS, and survival) that provide only customization items only. For future research, it is recommended to collect the data from more respondents and have an equal sample size for each gender, age group, and the type of game they are playing so that the relationship of gender and age group and in-game items purchasing can be explored deeper. Moreover, there are more factors that might influence in-game purchase intention then the researcher recommends exploring other factors to understand the linkage of attitude towards intention to buy and purchasing power more.

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## Appendix A: Questionnaire

### Section I: Screening question

1. I have purchased virtual items (characters, items, clothes, hairstyles, etc.) in free-to-play online games in the past 6 month.
  - a) Yes
  - b) No

### Section II: General question

2. How long have you been playing games?
  - a) Less than 1 year
  - b) 3-5 years
  - c) 5-10 years
  - d) More than 10 years
3. How often do you play games?
  - a) Everyday
  - b) 1-2 times per week
  - c) 3-4 times per week
  - d) 5-6 times per week
4. What device do you primarily play games on?
  - a) PC/LAPTOP
  - b) Home console (PS/Xbox/Wii)
  - c) Portable console (Nintendo switch/PS Vita/DS)
  - d) Smartphone/Tablet
  - e) What genre of game do you mostly purchase in-game item?
  - f) RPG - Role playing game (Genshin impact/Ragnarok/Maple story)
  - g) MOBA - Multiplayer Online Battle Arena (ROV/LOL/DotA)
  - h) FPS - First-person Shooter (Valorant/Apex Legends/Call of Duty)
  - i) Survival (PUBG/Free Fire/Dead by Daylight)
  - j) Puzzle (Candy crush/Line bubble)

- k) Strategy (Cookie Run Kingdom/Clash of Clans)
- l) Augmented reality games (Pokémon GO/Harry Potter Wizards Unite)
- m) Other please specify

5. How much do you spend on gaming per month?
- a) Less than 100 THB
  - b) 101-500 THB
  - c) 501-1,000 THB
  - d) 1,001-2,000 THB
  - e) More than 2,000 THB

### **Section III: Factor Question**

Please rate your LEVEL OF AGREEMENT on the following statements.

1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4= Agree, 5 = Strongly Agree

#### **Social influence**

- 1) I will purchase the same in-game items (characters, items, clothes, hairstyles, etc.) as my friend has.
- 2) I will purchase the popular item (characters, items, clothes, hairstyles, etc.) in the online game that I am playing.
- 3) I will purchase an in-game item (characters, items, clothes, hairstyles, etc.) that influencers (Professional game players, Game steamer, Game Caster, or Net idols) review.
- 4) I will purchase in-game items (characters, items, clothes, hairstyles, etc.) which popular in a forum or social group in an online game I am playing (Game web board, Facebook page, Facebook group, or community.)
- 5) When new items are added to the game (characters, items, clothes, hairstyles, etc.) I will be the first among my friends or social groups in the game (Game web board, Facebook page, Facebook group, or community) who own this item.

#### **Customization**

- 1) I will purchase in-game items that add special effects to my characters such as lighting, color, or sound when using a character's skill.
- 2) I will purchase in-game items that can change the appearance of my character (clothes, hairstyle, face, accessories, etc.) in an online game.
- 3) I will purchase in-game items to decorate my character and equipment.
- 4) I will purchase in-game items that make my character fashionable.
- 5) I always purchase in-game items related to in-game decorations and accessories.

### **Performance expectancy**

- 1) I will purchase in-game items that can enhance the performance of my character in online games (weapons, new skills, attack, or defense potions).
- 2) I will purchase new characters in the game to get new skills.
- 3) I will purchase in-game items that make my character abilities (Attack and defense power, health point, character's speed, etc.) are superior to other players' characters.
- 4) I will purchase in-game items that can help me get a higher rank or score than the previous time.
- 5) I always purchase in-game items that can enhance my character's performance
- 6) I think purchasing in-game items doesn't help enhance my character's performance or have more abilities than other players.

### **Effort expectancy**

- 1) I think online games should have various payment methods for in-game purchasing such as Credit/Debit cards, Internet banking/Bank transfer, E-wallet, Cash card, etc.
- 2) I will not purchase in-game items if the payment method is difficult, for example, multi-step payment verification.
- 3) I will not purchase in-game items if the in-game payment system is unreliable/non-standard.
- 4) A reliable payment system makes me decide to purchase in-game items easier.
- 5) I think in-game items purchasing process should be quick and smooth.

- 6) I think the reliability of the online game payment system does not affect my decision to top up or pay.

#### **In-game achievement**

- 1) I will purchase in-game item that make me achieve in-game missions easier than before.
- 2) I will purchase in-game items that help my character level up faster.
- 3) I will purchase in-game items that give me more chances to win the matches.
- 4) I will purchase in-game items that give me a chance to be a top-rank player in the game.
- 5) I will purchase in-game items that help me earn in-game rewards/trophies easier.

#### **Perceived enjoyment**

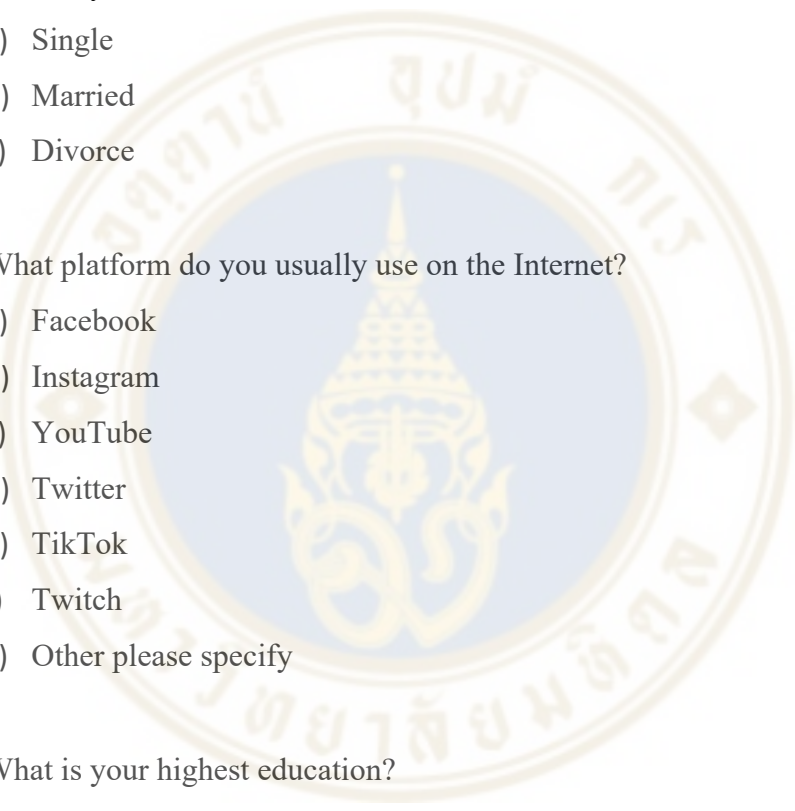
- 1) I enjoy the game more when using newly in-game items
- 2) I am really into the game more when using newly in-game items
- 3) When using newly in-game items I find the game more exciting.
- 4) Using newly in-game items make me want to spend time on the game more
- 5) Using newly in-game items make the gaming funnier

#### **Purchase intention**

- 1) I am very pleased to purchase a newly in-game item in an online game.
- 2) I will definitely purchase in-game items in the online game in the future.

#### **Section IV: Demographic question**

1. What is your gender?
  - a) Male
  - b) Female
  - c) LGBTQAI+

2. How old are you?
    - a) Less than 18
    - b) 18–24
    - c) 25–40
    - d) 41–60
    - e) More than 60
  
  3. What is your marital status?
    - a) Single
    - b) Married
    - c) Divorce
  
  4. What platform do you usually use on the Internet?
    - a) Facebook
    - b) Instagram
    - c) YouTube
    - d) Twitter
    - e) TikTok
    - f) Twitch
    - g) Other please specify
  
  5. What is your highest education?
    - a) Primary school
    - b) Secondary school
    - c) Dip. /High Voc. Cert.
    - d) Bachelor
    - e) Master
    - f) PhD.
  
  6. What is your average monthly income?
    - a) Less than 9,000 THB
- 
- The image contains a large, faint watermark of the University of Phayathai logo. The logo is circular and features a central emblem with a tiered umbrella and a crown, surrounded by Thai script. The watermark is centered on the page and overlaps with the question text.

- b) 9,001-15,000 THB
- c) 15,001-25,000 THB
- d) 25,001-50,000 THB
- e) More than 50,000 THB

