

**THE STUDY OF FACTORS THAT INFLUENCE PURCHASE  
INTENTION WITHIN ONLINE MOBILE GAMES IN THAILAND**



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Thematic paper  
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**THE STUDY OF FACTORS THAT INFLUENCE PURCHASE  
INTENTION WITHIN ONLINE MOBILE GAMES IN THAILAND**

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Narasak Tumtong

## **THE STUDY OF FACTORS THAT INFLUENCE PURCHASE INTENTION WITHIN ONLINE MOBILE GAMES IN THAILAND**

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### **ABSTRACT**

With the rapid growth of smartphone users from all across the world in the past decade, online mobile game market value rises dramatically comparing with other platforms like PC or console. Thus, this is the reason why online mobile game market has been massively interested by ton of game developers and publishers recently.

The purpose of this study is to investigate factors that influence purchase intention within online mobile games in Thailand. The research framework proposes that six independent variable: nostalgia, belongingness, perceived enjoyment, self-esteem need, self-actualization need, and uniqueness tend to have significant relationship with the dependent variable: purchase intention. The research scope was set to gather as up to date data as possible by focusing only respondents who had experience of purchasing virtual items with their real money within online mobile games in the past month prior the survey which resulted as total 102 of respondents who pass the criteria.

With an adoption of the quantitative methodology, data collection via online survey, and data processing through SPSS statistic program, the finding of this research showed that perceived enjoyment and self-esteem need were significantly related to the purchase intention of virtual items within online mobile games in Thailand.

**KEY WORDS:** online mobile game/ virtual items/ purchase intention/ perceived enjoyment/ self-esteem need

34 pages

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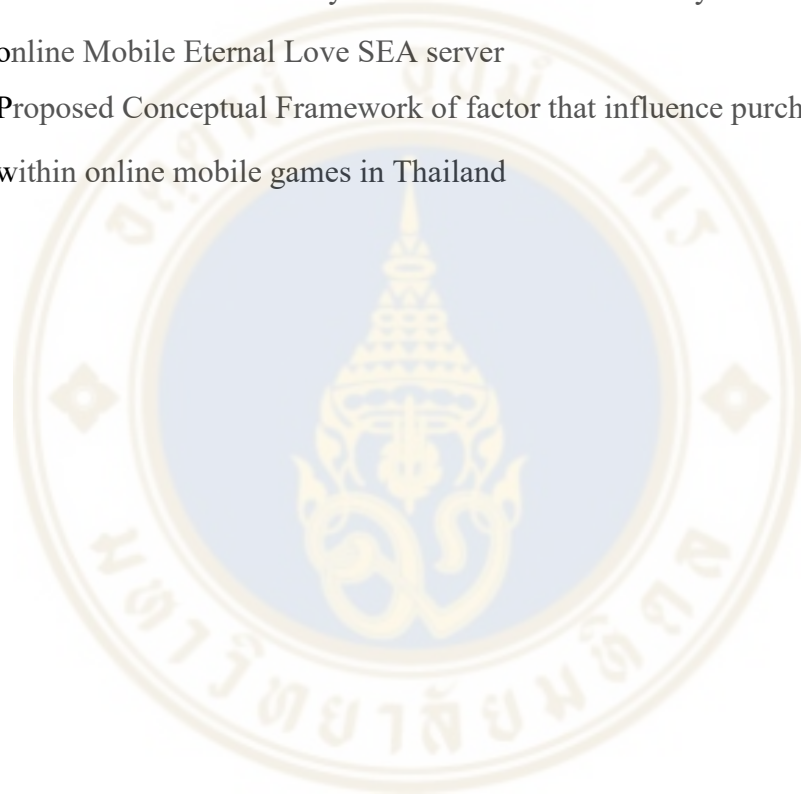
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# CHAPTER I

## INTRODUCTION

### **1.1 History and the current state of the gaming industry.**

In the past, video games were only perceived as a popular entertainment media by a small group of people. It was just a minor segment in the entertainment industry. Until 1970, video games became mainstream by the creation of game platforms, arcade games cabinets, gaming consoles, and home computers. Besides, the huge success of hit games was also an essential variable that pushed the industry forward. In 1972, Pong was manufactured and introduced to the public by Atari firstly as an arcade cabinet and later on the first home video game console, Magnavox Odyssey, and became the biggest hit first generation of a video game.

The gaming industry, as same as others entertainment industry, has been growing and developing alongside the world technology progression. With an advanced of information and communication technology, online multiplayer game emerged as a new genre and became widely successful until the present day. Online multiplayer games are mostly videogames which have a large number of players participating over an internet connection. This kind of game normally take place in a virtual space that the gamers can access after purchasing or installing the game software. (Techopedia, 2014) As the market size of online games was rapidly increasing, two type of business models are developed and widely adopted in the industry: subscription-based model and free-to-play model, which this study will focus only the later one. (Park and Lee, 2011)

Free-to-play or freemium (a combination of the words free and premium) is the business model which lets users get into online game space without any charge but offers them choices to purchase various virtual goods such as clothing, weapons, or privileges that free user cannot access, if they desires to have more power or better in-game appearance (Park and Lee, 2011; Kumar 2014). In addition, consumers may

develop needs and integrate the service into their lives, which possibly leads to their willing to pay for better in-game experience. (Kumar 2014; Lee, Kumar, and Gupta, 2013)

In the past decade before this study, the creation of smartphones was another big leap of technology, it is not only used for communication purpose, but also serves as new gaming platform. Recently, with the strong competition within smartphone industry that influences the business model for attracting customers with limited buying power, cheap smartphones with android operation system were introduced to the market. Thus, with more affordable choices for buyers leads to an increasing of smartphones users and also pushes the mobile game industry forward by gaining 51 percent of income from all over the game industry worldwide and expecting to be growing continuously every year ahead other platforms like console and PC. (Marketeer, 2018)

According to data from Newzoo in 2017, there were 18.3 million gamers with the total spending in the game market worth \$597 million. This put Thailand on rank 20th of the world in term of game revenue. Focusing on only the mobile game market, the revenue exceeded \$159 million and estimated to increase by 6.7% annually which will reach \$206 million by 2021. (Allcorrect, 2017) For Thai App store and Play store, majority of the games on mobile platform are online multiplayer based and the most successful revenue model for the mobile game market is an adaptation of free-to-play model, IAPS (In-Application Purchase) as clearly to be seen on more than 90% of mobile games nowadays. By analyzing only mentioned data, the fact that the mobile game industry in Thailand is a huge success and expected to grow rapidly draws attention from newcomers who want to jump into this field of business.

## **1.2 Problem statement**

The online mobile game industry is totally different from other platforms because of its lower cost of development and higher chance to reach more users. Developers can create their own mobile game according to their budget by following

the rule of Google play and App store of the country they want to publish. On the other hand, as many game publisher companies are not bothered by the game development process, but they chose to buy game license from outsource developers and conduct only service and marketing domestically or regionally instead. As same as other fields of business, foreign firms can also compete in Thai mobile game market as well, and many of them like Garena from Singapore and Tencent Games from China, with exceptional expertise and resources, make a huge success here. The intense competition offers tons of choices for consumers and lead to plenty of failure for those who step into the market without exceptional understanding about the consumer behavior and their intention to pay for in-game goods which is the main revenue for the most of online mobile games.

### **1.3 Research objective**

To study key factors that influence the purchase intention of in-game goods within online mobile games in Thailand from the perspective of consumer behavior. This study aims to benefit game developers and publishers who want to participate in Thai online mobile game market and researchers who want to study about the purchasing of virtual goods within Thailand.

### **1.4 Research question**

What are the key factors which influence the purchase intention of virtual items within online mobile games in Thailand?

### **1.5 Research scope**

This study will focus on people who have experience of purchasing virtual items with their real money within online mobile games in the past month prior to the survey for collecting as up-to-date data as possible. People who don't match the

qualifications will be excluded through screening questions in the survey questionnaire. Moreover, this study will focus only transactions between players and game publishers, or developers, who provide the service because the transactions between players do not cause a direct revenue to the service provider, and online mobile games in the market are mostly designed to prevent the transaction between players by removing it from the beginning.



## **CHAPTER II**

### **LITERATURE REVIEW**

#### **2.1 Virtual items**

Virtual items or digital goods are non-physical objects which are usually sold to be used within virtual space platforms such as online games and online communities by social networking service provider companies. Guo & Barnes (2011) suggested that virtual world, e.g. online game, are similar to real world, players or users in virtual space have similar demand that leads to purchasing products, but some products only exist in digital form within virtual space environment, such as virtual functional items which are used to increase a character's ability to compete, and decorative items which are used to improve a character's appearance and self-expression. As it is original y digital data created by a series of binary code, 1s and 0s, and presented graphically in any form with functions which service providers want to present to their users, therefore, virtual goods are not really object and can be considered as intangible assets or services that the publishers offer to their users (Techcrunch, 2007).

However, categorizing in-game virtual goods by the actual usage does not seem to be enough to be applied in this study. According to the previous studies, Lehdonvirta (2009) argued that base on sociological and cultural studies of consumption, virtual goods are perceived by its three basic categories of attribute; functional, emotional, and social (p. 102).

##### **2.1.1 The functional attribute**

According to Lehdonvirta (2009), Performance is an attribute of functional virtual items which enhances in game character's status or power which is represent its ultimate value by making its users to have better gaming experience as they control higher power than the others in virtual communities, it can refer to real world logic that



faster car are mostly perceived as more valuable than slower cars as an example. In addition, functional attribute can also be represent as a leverage which help its user ease their in-game inconvenient circumstances which plenty of them are likely to be an intentional design from the start by its developers (Hamari & Lehdonvirta, (2010). However, Hamari (2010) argued that the virtual goods which contain functional attributes are seen as unfair or cheating in the perspective of players who do not purchase them. In conclusion, the functional or utilitarian attributes of goods are the benefits which allow players to enhance their gaming experience by helping them to achieve their goal easier or faster in order to satisfy its users in various aspect such as the satisfaction from achieve something or improving their self-represent in-game character (self-actualization needs), their need to be praised or accepted by others (self-esteem needs), and their enjoyment or fun of playing their game.



Figure 2.1: virtual items with functional attribute in Spiritwish

### 2.1.2 The emotional attribute

According to Rodríguez (2017), aesthetic items or virtual items which contain emotional attributes are virtual products that are purchased by its appearance as a major reason, and these items mostly do not provide any in-game functional advantage to its owner. More precisely, the attributes of virtual goods which are able to stimulate emotional or hedonic response are visual appearance and sound, background fiction, provenance, customizability, cultural reference, and branding (Lehdonvirta, 2009). Depending on the game genre, these kinds of items include avatar clothes and accessories, furniture, and virtual pets, among many others (Wang, Ruan, Hsu, and Sun, 2019). Virtual items with this kind of attribute mostly attract consumers by triggering their self-esteem need, nostalgia, and need for uniqueness. For example, in ROV, one of the most popular online mobile games in 2020, there are many heroes or characters decorative skins which do not grant any benefit for its buyers except satisfying their emotional needs.



**Figure 2.2: An example of skin with the emotional attribute in ROV**

### 2.1.3 The social attribute

Lehdonvirta (2009) argued that the virtual items which contain this kind of attributes may not provide any utilitarian benefit for players to improve their character competitive strength or have to be highly approved by its artistic look or design, but it have to build a distinctive value for its owner to draw the difference between them and the others. According to Wang, Ruan, Hsu, and Sun (2019), consumers who mainly seek for products to satisfy their personal needs are different from ones who look for functional goods and hedonic goods, they are more concerned about fitting in with peer groups, similarities in incentives have been noted between purchases of real-world items and virtual items for games, including social motivation and peer pressure. The real example of the social attribute oriented virtual items is the first virtual vehicle that was opened for auction in Ragnarok online Mobile Eternal Love SEA server, Key of Heaven, which was bidden for 360,000 big cat gold coin which is worth around 2,160,000 bath, judging by its incredible price and limited only one piece in the game, it is the obvious representation of the social attribute, rarity. Complying with real world logic, the social attribute is used as symbolic meaning to send signal about its owner status, class, group, or self-identity to the others in a community, so the ultimate values which consumers seek from virtual items which this kind of attribute are to satisfy their self-esteem need, belongingness, and need for uniqueness.





**Figure 2.3: In-Game screenshot of Key of Heaven on the auction system within Ragnarok online Mobile Eternal Love SEA server**

## 2.2 Dependent Variables

### 2.2.1 Purchase Intention

Purchase intention refers to a consumer's preference to buy a product or service based on cognitive decision making on his/her need, or attitude towards a product and perception of products can also give influences (Madahi & Sukati, 2012). Wang & Hazen (2016) also supported the notion that purchase intention is positively influenced by perceived value and. According to these studies, in conclusion, purchase intention means a decision of customers to buy or not buy a product after he/she evaluates and find out that the products is worth for their money or be able to satisfy their desire according to their ultimate value or not.

In terms of purchase intention of virtual goods, there are many previous researches studied about it, however, according to Wohn (2014), there are only few academic research that have examined about virtual goods purchasing behavior as major part of the study due to the fact that game companies do not wish to share such information. However, Ho & Wu (2012) argued that many previous market research studies explained that customer satisfaction with products is most likely affects customer's purchase intention which can practically be applied in scope of virtual items as well.

So, this research aims to explore the relationship between the ultimate values which lie beneath each type of virtual item attributes and the purchase intention to spend real money to obtain virtual items within free-to-play online mobile games in Thailand as illustrated in the conceptual framework.

## **2.3 Independent variable**

### **2.3.1 Nostalgia**

Nostalgia is a compound of Greek words nostos, which means "homecoming", and algos, which means "pain" or "ache". According to the combination of these two words, the direct meaning of nostalgia implies as "pain of apart from home" or "homesickness". From its original meaning and usage, nostalgia seems to be a negative form of human emotion or a kind of psychological disease, however, many past researches and studies extended the concept of nostalgia to many different fields such as psychology, sociology, marketing, and consumer behavior. The early state of transferring the concept of pain and sorrow of nostalgia to be a positive attitude and favorable affect toward human emotion was written in sociological perspective. Davis (1979) defined nostalgia as "a distinctive way, though only one among several ways we have, of relating our past to our present and future" (p. 31). Holbrook and Shindler (1991) defined nostalgia as a preference of the individuals when they were younger towards the

things that were common. The new concept of nostalgia is related to people's identity, preference, and attitude toward places and objects which can be used to segment and communicate to the target audience in marketing and consumer behavior perspective. Marchegiani and Phau (2011) argued that nostalgia's use in advertising is considered to be highly successful and convincing in the prior studies. To be more precise, essence of nostalgia in term of marketing focuses on stimulate consumers' yearning of cherished memory and recreate the inspiration of subsequent nostalgic behavior (Cui, 2015). According to Khan (2018), nostalgic advertising significantly affect the purchase intention of consumers who have personal experience connected to a product, with age as a moderator variable. For in-game virtual items, nostalgia marketing is regularly presented as collaboration with famous cartoons, movies, or novels.

### **2.3.2 Perceived enjoyment**

Plenty of previous studies conducted to explore the effect of intrinsic motivation that could influence behavior, Teo, Lim, and Lai, (1999) argued to support this notion in their study that the perceived enjoyment is one kind of intrinsic motivation which is related to the pleasure and satisfaction from performing a behavior. To associate the perceived enjoyment with purchase intention, Ramayah and Ignatius (2005) conducted the study to explore an impact of perceived usefulness, perceived ease of use, and perceived enjoyment to online shopping purchase intention, as the result, they found out that perceived enjoyment is also expressed in terms of the feeling of joy, elation, and pleasure which is associated with the individual's act in online purchasing behavior. Koufaris (2002) also supported that perceived usefulness and enjoyment are the factors which influence consumers' intention to comeback and make unplanned purchases via online platforms. Linking to the topic of game and virtual item, perceived enjoyment are most likely being used, as intrinsic motivation, to influence intention to buy virtual items, and the enjoyment also play as a significant factor in driving players to pursue new virtual items in virtual worlds by the reason to enhance their personal entertainment. In conclusion, players typically don't have high interest enough to upgrade or purchase

new virtual items when they perceive low participation and enjoyment in the virtual world. (Guo and Barnes, 2009).

### **2.3.3 Belongingness**

The sense of belongingness has been widely discussed in many psychological studies in order to define, measure, and explore its effects on human motivation. Baumeister and Leary (1995) defined belongingness as the state of human trying to maintain at least a minimum quantity of lasting, positive, and significant relationships with others. The motive to belong is central to human existence and culture. Malone, Pillow, and Osman (2012) also argued that belongingness is personality traits that drives individuals to seek for being accepted and avoiding rejection by society. Focusing on the marketing aspect which relates to the need to belong, it can be assumed that consumers rely more on interpersonal relationships for searching and exchanging information before making buying decision. In conclusion, sense of belongingness or the need to belong can affect consumer behavior in terms of influencing purchase intention to enhance their relation with their desired group.

### **2.3.4 Self-Esteem need**

From the valuable assessment tool that is used widely in many different fields and professions, Maslow's Hierarchy of Needs, as an idea of need to be addressed at the forth level of the hierarchy. According to Poston (2009), Maslow's hierarchy addresses two levels of self-esteem as higher and lower form, the higher form is mainly related to self-respect and the lower is about an individual's ego instead.

In the content of virtual items and gaming perspective, Guo and Barnes (2009) argued that human motivation is strongly driven by desire to fulfill Maslow's hierarchy of needs, and self-esteem might be important for capturing the motivations of purchasing virtual items within a virtual world atmosphere, it can be expected a character competency to capture esteem needs of its player. In term of the impact of self-



esteem as a purchase drive of virtual item, item purchases are influenced by the feelings of self-esteem as an enthusiasm to be better than others (Jack, 2015)

### **2.3.5 Self-Actualization need**

At the top level of Maslow's hierarchy of need pyramid, there is self-actualization considered as the highest need to be attained. Self-actualization means the need for self-development, self-fulfillment, and peak experiences. Pino, Peluso, and Guido (2012) also mentioned in their study that the self-actualization is attitudes toward and expectations of life, such as willingness to try new things and challenges. The influence of self-actualization on consumer behavior, Suelin (2010) argued that, based on Maslow's theory, the attaining of self-actualization and other higher level needs drive the consumption and purchase patterns. In the field of virtual goods consumption, together with other aspects, Self-actualization is also important for predicting virtual item purchase behavior in virtual worlds (Guo and Barnes, 2009).

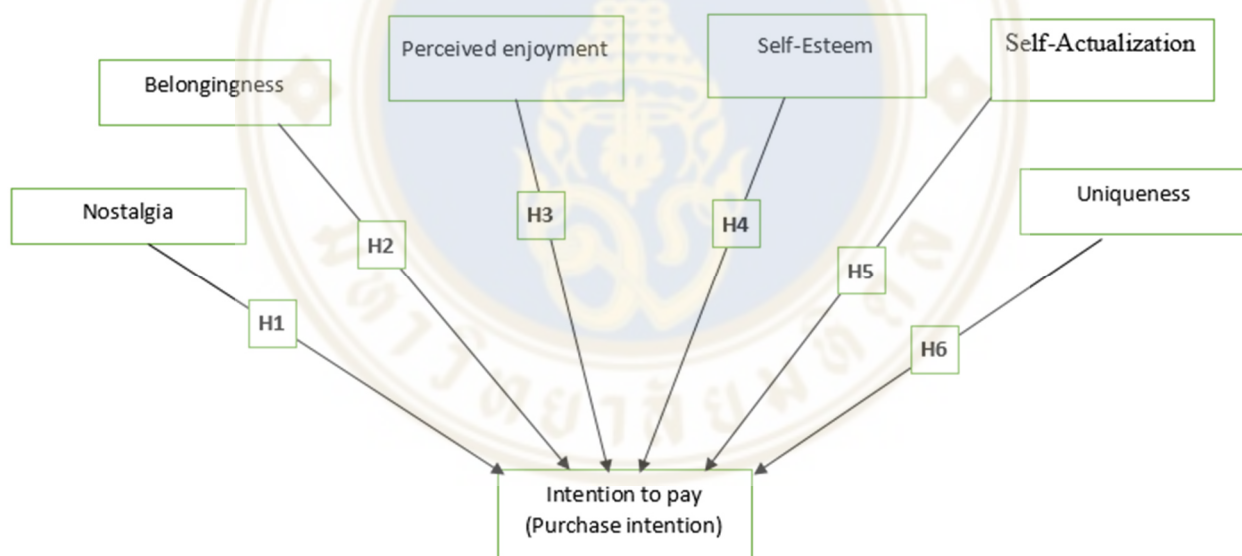
### **2.3.6 Uniqueness**

The need for uniqueness has been discussed extensively in many fields of previous studies, especially consumer behavior related. According to Tian, Bearden, and Hunter (2001), consumers' need for uniqueness is defined as a pursuit of being difference which can be achieved through the acquisition, utilization, and disposition of consumer goods. As a factor that influence consumer behavior, uniqueness can also be related to an expression of self-identity and personal lifestyle, according to Cătălin and Andreea (2014), consumers strive to create an unique identity based on their personal preferences and past experiences as seen as the consumption of brands in order to support that identity. Besides, an eagerness to be unique can be described as a desire for being distinct among others in the society as well, as described by Snyder (1992) that individuals are likely to be motivated by their intrinsic desire to maintain a sense of specialness as they idea-self on various dimensions comparing to others in the society. An influence of the

need for uniqueness is also applied as one of virtual item buying motivation, according to the study to identify attributes that drive purchase decisions toward virtual item of Lehdonvirta (2009), gamers who consume virtual goods by an influence of uniqueness can be defined as communicators who try to send signal about their identity and to express status, class, group membership according to their preferences.

## 2.4 Conceptual framework

to prove 4. The research model was designed as shown in figure 2 relationship between each variable of ultimate value which consumer demand from ,esteem-nostalgia, belongingness, perceived enjoyment, self) virtual goods -self .and the intention to buy virtual goods (actualization, uniqueness



**Figure 2.4: Proposed Conceptual Framework of factor that influence purchase intention within online mobile games in Thailand**

**H1:** Nostalgia has a significant positive influence on purchase intention within online mobile games in Thailand.

**H2:** Belongingness need has a significant positive influence on purchase intention within online mobile games in Thailand.

**H3:** Perceived enjoyment has a significant positive influence on purchase intention within online mobile games in Thailand.

**H4:** Esteem need-Self has a significant positive influence on purchase intention within online mobile games in Thailand.

**H5:** Self-Actualization need has a significant positive influence on purchase intention within online mobiles game in Thailand.

**H6:** Uniqueness has a significant positive influence on purchase intention within online mobile games in Thailand.

## **CHAPTER III**

### **RESEARCH METHODOLOGY**

#### **3.1 Research instrument**

This study emphasize on using quantitative method to go through data collection process by conducting questionnaire survey. Recently, web-based survey has been widely adopted by many academic researches as an effective solution to collect data. So, the questionnaire of this research is conducted in Thai language via Google platform and the respondent will be randomly chosen by convenience and the online survey is collected through social media channels such as Facebook groups, Facebook pages, and Line.

#### **3.2 Sample size**

This study focuses only Thai gamers who have experience on spending their real money to obtain virtual items within free-to-play online mobile games, so the questionnaire is developed based on the conceptual framework mentioned to investigate the hypothesis. To ensure that the collected result is filled by the target group of interest, screening questions are adopted to be the essential part of the research. According to Yamane (1973), this research sample size is calculated by Yamane formula with a confidence level of 95% as the formula presented as follow;

$$n = \frac{N}{1 + Ne^2}$$



As the size of population focused on this study is 18,300,000 which is the number of Thai gamers based on the data Newzoo report “The Thai Gamer” 2017. After calculating the sample size by substituting the numbers into the Yamane formula, the sample size should be 400. The expected respondents are not limited by any demographic information, but the respondents must have experience of buying virtual items within free-to-play online mobile games within 1 year to prove their continuous behavior. However, due to the limitation of time frame, the researcher will allocate the quantity of respondents as collectable as compiled within the time frame.

### **3.3 Questionnaire design**

The questionnaire will contain four parts, screening questions, general questions, specific questions, and demographic questions. Also different types of scale will be applied on each part of questionnaire, nominal scale for part one, two, and four, ordinal scale for part three. The four-point Likert scale (1 is strongly disagree and 4 is strongly agree) will be adapted by eliminating the mid-point to prevent some respondents that might chose ones in middle, as social desirability bias, arising from respondents' desires to please the interviewer or appear helpful or not be seen to give what they perceive to be a socially unacceptable answer, can be minimized by eliminating the mid-point (Ron Garland, 1991)

Part 1: Screening questions to assort only respondents who have experience with free-to-play online mobile games.

Part 2: General questions to categorize heavy-light users and payers of free-to-play mobile games.

Part 3: Specific questions contain dependent and independent variables questions which will be used to gather ordinal data through four-point Likert scale.

Part 4: Demographic questions are arranged in the last section of the questionnaire to gather data about gender, age, education level, and personal income.

### **3.4 Data analysis**

The collected data will be processed through SPSS statistical program, in order to identify relation between the independent variables: Nostalgia, Belongingness, Perceived enjoyment, Self-esteem, Self-Actualization, and Uniqueness, with dependent variable: Purchase intention according to conceptual framework in chapter 2. This research uses measurement tools as below;

- Descriptive analysis: To describe respondents' personal information by providing a table of summary which contains frequency, percentage, mean, and standard.
- Correlation analysis: To explore and measure the relationship between two individual variables. For this study, this analysis is used to determine the relationship between independent variables, nostalgia, belongingness, perceived enjoyment, self-esteem, self-actualization, and uniqueness, and the dependent variable, purchase intention.
- Regression analysis: To discover the relationship and how much the variation of the dependent variable which can be described by the independent variables. In this study, it is used to study the relationship between six independent variables and the dependent variable according to the hypothesis.

### **3.5 Validity test**

To test the validity of created questionnaires, the researcher uses 30 respondents who fit within the criteria of the target group to run a pilot test. By directly asking them to comment in many aspects such as the clarification of questions, wording, the length of questionnaire, and the questionnaire format. As the result of the pilot test, all mentioned problems have been amended before spreading the improved questionnaire to collect actual data.

### 3.6 Reliability test

To ensure the reliability and internal consistency, Cronbach's alpha is adopted to explore how closely related of 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. By using gathered data from pilot test with 30 respondents, the result of Cronbach's alpha of set of items of each factor suggested that all items practically represent each factor with great reliability as all of the result are above 0.6 according to Table 3.1

**Table 3.1 Cronbach's alpha result of each factor**

<b>Factor</b>	<b>Cronbach's alpha result</b>
Nostalgia	.888
Perceived enjoyment	.837
Belongingness	.936
Self-Esteem	.930
Self-Actualization	.880
Uniqueness	.825
Purchase intention	.905

## CHAPTER IV

### FINDING & RESULT

After collecting data through online survey, there are 134 respondents who submit the survey questionnaire, but the quantity of the respondents who match with percent, or 102 people who have purchased virtual 1.the research criteria is only 76 .items within 1 month before attending the survey

#### 4.1 Respondent Profile

**Table 4.1: Descriptive statistic of the respondents' demographic profile**

Question	Frequency	Percentage
<b>Gender</b>		
Male	70	68.6
Female	32	31.4
Total	102	100
<b>Age range</b>		
Lower than 18	11	10.8
18 -25	31	30.4
26 -30	31	30.4
Higher than 30	29	28.4
Total	102	100
<b>Game play time/week</b>		

Lower than 3 hours	22	21.6
3 - 7 hours	41	40.2
More than 7 hours	39	38.2
Total	102	100
<b>Monthly income</b>		
Lower than 5,000 baht	12	11.8
5,001 - 10,000 baht	6	5.9
10,001 - 20,000 baht	33	32.4
20,001 - 30,000 baht	24	23.5
More than 30,000 baht	27	26.5
Total	102	100

According to Table 4.1, it demonstrates the demographic profile of the respondents who fit within the criteria of this research in aspect of gender, age range, game-play time per week, and monthly income as following;

**Gender:** There is obvious contrast about gender of the respondents, while the proportion of male respondents is 68.6% or 70 respondents, Female respondents are only 31.4% or 32 from total 102 respondents.

**Age range:** There is no real majority considered by the result, respondents with age range 18 - 25, 26 - 30, and more than 30, contain 30.1%, 30.4%, and 28.4% consecutively. Whereas, respondents who have age lower than 18 are an obvious minority by the percentage of only 10.8%.

**Game play time per week:** This question tend to explore about in-game commitment of the respondents and the result shows that 40.2% or 41 respondents have total play time per week as 3 – 7 hours which is quite average, following by 38.2% or 39 respondents who heavily spend time for their game more than 7 hours per week, and 21.6% or 22 respondents who are light user with play time less than 3 hours per week.

**Monthly income:** This may imply an aspect of purchasing power of the respondents that majority of respondents have monthly income around 10,001 – 20,000 baht as 32.4% of total or 33 respondents, following by respondents who gain more than 30,000 baht per month as 26.65% or 27 respondents, 20,001 – 30,000 baht as 23.5% or 24 respondents, and the ones who gain lower than 5,000 baht as 11.8% or 12 from total 102 respondents.

## 4.2 Attitude and behavior of respondents

**Table 4.2: Descriptive analysis attitude and behavior of respondents toward virtual items purchasing within online mobile game.**

Question	Frequency	Percentage
<b>Total spending on virtual items within online mobile games within a month.</b>		
Lower than 500 baht	35	34.3
501 – 3,000 baht	36	35.3
3,001 – 5,000 baht	17	16.7
More than 5,000 baht	14	13.7
	102	100



Total		
<b>Attitude toward purchasing virtual items</b>		
Not necessary	16	15.7
little bit necessary	42	41.2
Necessary	30	29.4
Very necessary	14	13.7

Due to the result on Table 4.2, it indicate about the real purchasing behavior of the respondents, the majority of them, 35.3% or 36 respondents, spend their real money to buy virtual items within online mobile game for 501 – 3,000 baht per month, following by light buyers who spend lower than 500 baht per month as 34.3% or 35 respondent. Whereas, the respondents who spend 3,001 – 5,000 baht per month are only 16.7% or 17 respondents and the heavy spenders who pay more than 5,000 baht per month are the minority as 13.7% or 14 of total 102 respondents.

Moreover, Table 4.2 also show information about attitude of the respondents toward purchasing of virtual items as the majority of the respondents, 41.2% or 42 respondents, perceive that it is just a little bit necessary for them to spend on virtual items, following by 29.4% or 30 respondents who think that it is necessary, 15.7% or 16 of respondents who think it is necessary, and 13.7% or 14 respondents who perceive that it is very necessary for them to spend their real money to obtain virtual items.

### 4.3 Correlation

Table 4.3: Correlation analysis

		Correlations									
		Nostalgia	Enjoyment	Belongingness	Esteem	Actualization	Uniqueness	Purchase			
Nostalgia	Pearson Correlation	1	.145	.139	.208*	.143	.194	.137			
	Sig. (2-tailed)		.146	.164	.036	.151	.051	.170			
	N	102	102	102	102	102	102	102			
Enjoyment	Pearson Correlation	.145	1	.234*	.449**	.140	.283**	.425**			
	Sig. (2-tailed)	.146		.018	.000	.159	.004	.000			
	N	102	102	102	102	102	102	102			
Belongingness	Pearson Correlation	.139	.234*	1	.495**	-.126	.360**	.191			
	Sig. (2-tailed)	.164	.018		.000	.207	.000	.055			
	N	102	102	102	102	102	102	102			
Esteem	Pearson Correlation	.208*	.449**	.495**	1	-.043	.630**	.539**			
	Sig. (2-tailed)	.036	.000	.000		.671	.000	.000			
	N	102	102	102	102	102	102	102			
Actualization	Pearson Correlation	.143	.140	-.126	-.043	1	-.028	.098			
	Sig. (2-tailed)	.151	.159	.207	.671		.782	.325			
	N	102	102	102	102	102	102	102			
Uniqueness	Pearson Correlation	.194	.283**	.360**	.630**	-.028	1	.397**			
	Sig. (2-tailed)	.051	.004	.000	.000	.782		.000			
	N	102	102	102	102	102	102	102			
Purchase	Pearson Correlation	.137	.425**	.191	.539**	.098	.397**	1			
	Sig. (2-tailed)	.170	.000	.055	.000	.325	.000	.000			
	N	102	102	102	102	102	102	102			

\*. Correlation is significant at the 0.05 level (2-tailed).  
 \*\*. Correlation is significant at the 0.01 level (2-tailed).



Due to Table 4.3, gathered data was analyzed through Pearson correlation coefficient to test the relationships between independent variables, which are nostalgia, perceived enjoyment, belongingness, self-esteem, self-actualization, uniqueness, and dependent variable, purchase intention. The result showed that the dependent variable was statistically correlated with only three independent variables, self-esteem ( $r=.539$ ), perceived enjoyment ( $r=.425$ ), and uniqueness ( $r=.397$ ) respectively. All mentioned correlation coefficients were positive which mean these variables tend to alter in the same direction, for example, as people were more motivated by the need for self-esteem, as they might have a higher chance to purchase virtual items within online mobile games.

Even though this study does not focus on correlation between each independent variable, however, there were many independent variables which were significantly correlated with each other which was interesting and might be useful for further study as indicated on Table 4.3.1.

#### 4.4 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 purchase intention within online mobile games in Thailand or not.

**Table 4.4: Multiple linear regression analysis**

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.594 <sup>a</sup>	.353	.312	.56262

a. Predictors: (Constant), Uniqueness, Actualization, Nostalgia, Enjoyment, Belongingness, Esteem

Starting with the first run of regression analysis which contains all six independent variables, nostalgia, perceived enjoyment, belongingness, self-esteem, self-actualization, and uniqueness, in the analysis. According to Table 4.4, the result indicated that R square was .353 which represented that the model could be used to explain 35.3% of the proportion of variance of the dependent variable, purchase intention within online mobile 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 .312, or 31.2%, which could explain how well the dependent variable could be predicted by the independents variables in this model as well.

**Table 4.5: ANOVA overall significance of the model**

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16.401	6	2.733	8.635	.000 <sup>b</sup>
	Residual	30.072	95	.317		
	Total	46.473	101			

a. Dependent Variable: Purchase

b. Predictors: (Constant), Uniqueness, Actualization, Nostalgia, Enjoyment, Belongingness, Esteem

As presented on Table 4.5, 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 4.6: Regression coefficients**

Model		Coefficients <sup>a</sup>				
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.565	.499		1.132	.260
	Nostalgia	-.001	.075	-.001	-.010	.992
	Enjoyment	.310	.135	.215	2.287	<b>.024</b>
	Belongingness	-.077	.074	-.100	-1.044	.299
	Esteem	.374	.106	.431	3.533	<b>.001</b>
	Actualization	.071	.079	.077	.898	.371
	Uniqueness	.099	.103	.103	.959	.340

a. Dependent Variable: Purchase

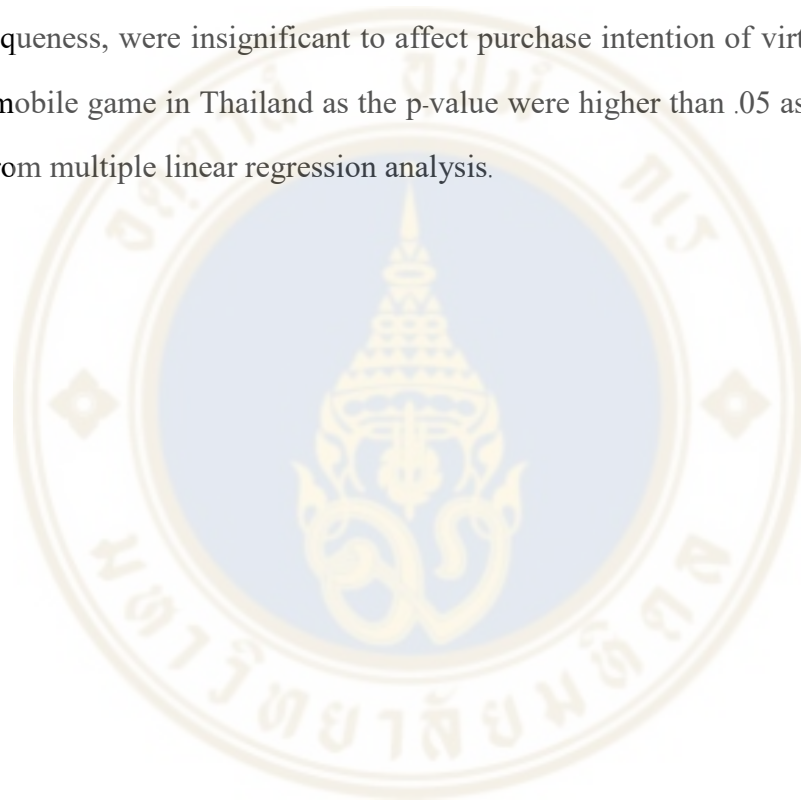
The result of the regression coefficients according to Table 4.4.3 suggested that there were only self-esteem and perceived enjoyment needs which were statistically significant at .05 level, with B=.374 and P = .001 for self-esteem, and B = .310 and P = .024 for perceived enjoyment. Consequently, gamers who have higher self-esteem and perceived enjoyment needs are likely to have higher purchase intention toward virtual items within online mobile games in Thailand.

#### 4.5 Result of hypothesis testing

**Table 4.7: Summary of hypothesis tests**

<b>Hypothesis</b>	<b>Beta</b>	<b>p-value</b>	<b>Result</b>
Nostalgia has a significant positive influence on purchase intention of virtual items within online mobile games in Thailand.	-.001	.992	Not supported
Belongingness has a significant positive influence on purchase intention of virtual items within online mobile games in Thailand.	-.100	.299	Not supported
<b>Perceived enjoyment</b> has a significant positive influence on purchase intention of virtual items within online mobile games in Thailand.	.215	.024	<b>Supported</b>
<b>Self-esteem needs</b> has a significant positive influence on purchase intention of virtual items within online mobile games in Thailand.	.431	.001	<b>Supported</b>
Self-Actualization needs has a significant positive influence on purchase intention of virtual items within online mobiles game in Thailand.	.077	.371	Not supported
Uniqueness has a significant positive influence on purchase intention of virtual items within online mobile games in Thailand.	.103	.340	Not supported

According to Table 4.7, the result of hypothesis testing indicated that only two from six hypotheses were proven to be supported. H3: Perceived enjoyment and H4: Self-esteem needs were the motivation that significantly influenced purchase intention of virtual items within online mobile game in Thailand, as Self-esteem needs showed the result of Beta as .431 which was higher than Perceived enjoyment, which was .215, therefore, Self-esteem needs had higher influence toward purchase intention in this study. However, H1: Nostalgia, H2: Belongingness, H5: Self-Actualization needs, and H6: Uniqueness, were insignificant to affect purchase intention of virtual items within online mobile game in Thailand as the p-value were higher than .05 as indicated in the result from multiple linear regression analysis.



## **CHAPTER V**

### **CONCLUSIONS & RECOMMENDATIONS**

#### **5.1 Conclusions**

Revenues from the online gaming industry in Thailand have been increasing over the past several years, and free-to-play with virtual items selling becomes the main model which game developers and publishers use. While previous study like Guo and Barnes (2011) focused on exploring consumers' individual motivation which affect to their decision process, and 2009) Lehdonvirta) was conducted to yield more detail about ,purchase decision what attribute of virtual goods can drive consumersthis research aims to explore the factors, which are more psychological related, that influence purchase intention toward virtual items within online mobile game in Thailand in order to gain better understanding of consumer behavior in cognitive level, by navigating through literatures review, there are six possible factors, nostalgia, perceived enjoyment, belongingness, self-esteem need, self-actualization need, and need for uniqueness, which might affect the purchase intention as arranged in the conceptual framework.

After processing data with statistical analysis techniques through the SPSS program, the result provides the researcher with better understanding and leads to answering the research question. From the initial six independent variables, there are only two variables that significantly influence purchase intention, which are self-esteem need and perceived enjoyment. As indicated by the result, gamers who have higher need for self-esteem and perceived enjoyment have greater motivation toward purchase intention toward virtual items within online mobile games in Thailand.



## **5.2 Recommendation**

The online mobile game market tends to grow rapidly every year from this point by wider adaptation throughout the country and emerging of E-sport trend. Based on the result of this study, the most effective way that game developers and publishers should focus on when developing their in-game virtual items for sale and marketing campaigns is to motivate gamers that the items can satisfy their self-esteem needs and grant them more in-game enjoyment. To be more precise, self-esteem need which gamers desire from buying virtual items can be perceived in various aspects such as good feeling when they obtain desired things for their in-game character which is represent their identity, pride of being respect or jealous by others when they can have something which is rare or hard to be earned by others. So, virtual items which generate this kind of psychological satisfaction will likely to be desired by general gamers. As games are originally designed for people to have fun, so one of the most common aspects, which is desired by gamers, is just to have fun. Various items developed and launched by many game developers nowadays are oriented by marketing purposes which tries to motivate gamers to purchase virtual items to generate as much revenue as possible and forget to consider this fundamental aspect. Aligning with the result of this study, the researcher truly believes, as a gamer, that the most inspiring reason for the ones who play games is to have fun. Therefore, virtual items or marketing campaigns which stimulate gamers by the idea that they can have more enjoyment by purchasing the items will efficiently influence their purchase intention.

## **5.3 Limitations and Future research**

About the limitation and recommendation for future research, the first and most critical issue is about the sample size which is only 102 respondents. It is relatively small due to the time limitation of the course. The second limitation is the criteria which is set by the researcher, with an intention to explore as up-to-date data as possible, screening only respondents who spent in their game within a month was applied in

survey section, the criteria was too strict as the researcher received many comments and feedbacks from respondents who did not pass the screening question and they want to participate in the survey as well, for further research on this topic, researchers might consider to lessen the screening criteria which may lead to larger sample size as well. Last but not least, there might be some relationships between independent variables which are interesting to explore, researches can also investigate them for better understanding of the topic in the future.





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