Consumer Preference on Paid Game Microtransaction

David Chua[1], Nathaniel Kainama[2], Mahesa Nararya Adji[3*], Feranita Feranita[4]

[1,2,3]Creative Marketing Program, Management Department, BINUS Business School Master Program, Bina Nusantara University, Jakarta, Indonesia 11480

[4]Taylor's University, School of Management and Marketing, No. 1 Jalan Taylors, 47500 Subang Jaya, Selangor, Malaysia

[1]davidvadis5@gmail.com
[2]nielkainama@gmail.com
[3]mahesa.nararya@gmail.com
[4]f.feranita01@gmail.com

[*]Corresponding author

Abstract- *Online gaming has become prevalent with the rise of the internet availability, where the gaming industry is experiencing a shift in business model in the last decade. The new model of microtransaction is to make players pay for extra content and advantages to compete against other players. In this paper, we aim at finding out what the consumer preference on microtransaction in paid game. Mode, Price, Genre, Microtransaction, and Payment Method are the preferences used as benchmark for this research that influences decision making for players. To better understand the characters of the players, cluster analysis is used to group players who have similar preferences with their respective preferences*

1. INTRODUCTION

Online gaming has become prevalent with the technology advancement and rise of the internet availability, where the online gaming market is experiencing a shift in business model in the last decade. The traditional way of doing a video game business by funding in creating a game to publish on high end consoles, sold through retailers and physical stores has decreased steadily since the last increase in 2008 (Dillon & Cohen, 2013). This happens due to the internet penetration that is being used by the world, with the infrastructure that supports better internet usage, easier and faster access that continues to grow every year. Internet users are increasing throughout the world, having the biggest impact on Asia, especially South East Asia. the impact of the increasing population of internet users, changing people's styles of communication, exchanging information, and even in playing games. Changes in playing games through the internet also changed the model business in the gaming world, where there was not only a sale and purchase process, but also a system of subscription and the process of selling and buying virtual goods. this process can also occur without needing to go through a third person or retailer via download, so the process occurs directly between game developers and customers (Dillon & Cohen, 2013) The increasing use of mobile phone makes mobile gaming an ever-attractive market for businesses (Montag, C., Błaszkiewicz, K., Sariyska, R., et al., 2015)[27]. At such, online mobile game takes a toll, with most of the games designed as free-to-play - freemium business model (Hamari, 2011)[16]. The 'free-to-play'

model, which we refer to as freemium business model of gaming industry, is characterized by the free initial 'purchase' of the game and how the game generates revenue by trying to upsell little bits and pieces of the game separately (Seufert Eric, 2013; De Picquendaele, 2016)[6]. This business model has shown to be effective and successful as the majority of the top 300 applications in Apple's App Store adopt the freemium business model (Brockmann, Stieglitz, & Cvetkovic, 2015)[3].

Generating revenue of real money through the sales of virtual goods has increasingly become a popular revenue model for consumer-oriented online services, social networking sites (SNS), massively-multiplayer online games (MMOs), and virtual worlds (Hamari and Lehdonvirta, 2010)[18]. On the one hand, developers have made compelling game designs throughout the years in the industry but still lacking the expertise on marketing the virtual goods to the players. On the other hand, marketers who are expertise in marketing games to consumer as a whole service lacks knowledge in regard to internal design and mechanisms of games (Hamari and Lehdonvirta, 2010)[18]. There is an ever-growing major new revenue model on the rise for online services such as MMO game titles, particularly in the East Asian market (Hamari and Lehdonvirta, 2010)[18]. Research has shown that 32% of the game titles in Japan used virtual item sales as their main revenue model and that the share has grown rapidly up to 60% by the end of 2006 (Nojima, 2007). As of 2006, the global volume of real money generated by trading virtual goods was estimated at 2.1 billion US dollars (Lehtiniemi & Lehdonvirta 2007).

Unlike the subscription model, microtransactions involves selling virtual goods in different forms, such as avatar, expansions, in-game extras, and upgrades (Evers et al., 2015)[9]. These virtual items can range from clothes for game characters with no specific function or weapons and armors that give the player advantages in online games. These virtual transactions in the gaming world require players to trade their real money in exchange for a digital currency. One example would be L$ (Linden Dollar), a virtual currency in a game name Second Life, the pioneer of the so called "virtual assets". In some other online games, the virtual currency comes in the form of "diamond" or "gems" to be spent according to the cost of the virtual items. Virtual assets have become a new phenomenon that provides a new unique business environment consists of intangible valuables that exists only in the digital realm (Yue Guo & Stuart Barnes 2011)[47]. These items are ways for players to fulfil social and aesthetic functions as physical commodities in the consumer culture (Lehdonvirta, Wilska & Johnsson 2009).

On the other side of the spectrum, comes the traditional way of video game play: Pay and play. Top game developers in the industry like Electronic Arts, Ubisoft, and 2K Games have tried to evolve from the revenue model by combining the elements of traditional model and freemium model. Games like Star Wars: Battlefront II (2018), Assassin's Creed Origins (2018), and NBA 2K19 (2018) adopts a model where players still have to pay its full price of USD$60 up front to purchase the game, but can also pay for its little bits and pieces in game like a freemium game while not inherently being 'free' initially. There exist two types of gamers in the market, the non-committal casual gamers and the committal hardcore gamers (Jacobs, Ip, 2004; Lee, 2015), with casual gamer taking 56% of the market share in the industry (NPD Group, 2014). These two types of gamers are separated mostly by motivation (Lee 2015)[24]. Therefore, the types of players that the game is targeting have significant implications in the creation and design of a video game. Even though hardcore gamers accounted for only 20% of the market share, games are targeted to hardcore gamers as they spend more time in game compared to casual gamers (NPD Group, 2014). The ever-evolving revenue model of online games and recent trend of combining the traditional and freemium model probe a deeper look into the purchase intention. Existing research has explored the psychological aspects of buying digital content. However, to date, there has not been any research on the consumer preferences toward the combination of two design philosophy: traditional model and the freemium model (Hamari, Alha, Järvelä, Kivikangas, Koivisto, & Paavilainen, 2017)[17].

In this paper, we aim to explore consumer preference on game purchase decision from the way players play/use the product itself. First, we take into considerations players' demographic data. Next, we measure their behaviors toward the video games they play in order to identify which segment they belong to, this allows us to have an overview of the unique behavior each segment has. Subsequently, we determine their preferred type of content (categorized into genre, mode, microtransaction, price, and payment method) based on a simulated set of data. This paper has two main contributions. Firstly, as the topic on the revenue generating models in regard to online gaming is still in the nascent stage and still evolving, our findings will provide new insights for future research on the preference on purchase decision of each segment of gamers. Secondly, our findings shed light for practitioners in designing revenue generating models for their online games within the chosen segment.

This paper is structured as follows: Firstly, we review the literature on consumer preference in the theoretical background section. Secondly, we outline the methodology used to answer our research question. Thirdly, we present the statistical findings in the results section. Finally, we discuss our findings and propose future research in the discussion and conclusions section.

2. THEORETICAL BACKGROUND

2.1 Decision Making, Motivation, and Consumer Preference in Online Games

Solomon (2017)[37] has categorized decision-making into three different kinds of consumer decision making. Firstly, "Cognitive Decision Making" refers to the consumer calmly and carefully integrate as much information as possible in determining whether a product is deemed worth his/her sacrifice. Secondly, "Habitual Decision Making" refers to the consumer deciding with little or no conscious effort. Finally, "Collective Decision Making" is where it involves more than one person in the process of deciding the products or services that he/she would be using.

Guo and Barnes claims that motivation is one of the reasons someone gets something they want (Guo & Barnes, 2011)[15]. On the other hand, Broussard and Garrison (2004) refer to motivation as the attribute that can encourage someone to do or not to do something. While Lai (1999) found that motivation involves a constellation of beliefs, perceptions, values, interests, and actions that are all closely related. In the context of game, the motivation of a gamer is to win or obtain an achievement. This achievement in gaming can be achieved by developing his/her character to be stronger through virtual items provided in the game to increase the level against other players. In addition, gamers also get satisfaction and self-esteem through personalizing the appearance of their characters by using rare virtual items, showing off to other players. Developing the game character to be stronger, having abundance of wealth, or obtaining appearance better than other players in game are among the motivations for gamers in pursuing and purchasing functional or decorative virtual items. Furthermore, Guo and Barnes identified three main motivations for gamers in pursuing advanced virtual

items, namely, character competency, perceived enjoyment, and quest system requirements (Guo & Barnes, 2011)[15].

Nevertheless, in the world of gaming, gamers often end up with impulsive purchases due to the impatient habit being built up during game time. Especially in the multiplayer mode, an instant win or "shortcut" is a preferable strategy on advancing throughout the game in a very quick manner, inherently beating other players. Combining the impatient habit and the desire to win together with an easy payment method, such as Paypal or linking credit card to the game account, gamers are now able to purchase digital content at the tip of their fingers in an instant.

"I think developers are aware of impatience as a driving force" - Evans & Elizabeth, 2015

Game developers seek to exploit the 'get-it-now' attitude derived from the impatient behavior among gamers in order to monetize the impulse action in generating income for the company (Feeld, 2016)[10]. Impatient behavior in gamers itself has long been a part of video game culture with the circulation of walkthroughs that offer detailed guides on completing the games. Such historical relationship between the impatient habit bestowed upon gamers and impulsive purchase of virtual items leads to the uprising popularity of freemium games (Evans & Elizabeth ,2015).

Preference is defined as "The usefulness of the brand in helping individuals affect an impact on their environment." (Yang et al, 2002)[46]. Yang et al., (2012) claims that it is of the utmost important for the management to allocate resources in building and maintaining their brand(s) as a brand has great influence on preference. Portraying such condition is the management's means of engaging the attention of its

target audiences through various media channels. Promising and delivering an outcome that is responsive to motivating conditions for which the brand is positioned is a source of value for the user and of return on investment for the producer (Yang et al, 2002)[46].

However, in the context of online games, impatience serves as the biggest factor in the decision-making process when purchasing the game, as potential players assess the efforts and sacrifices required in the process of game play. On the one hand, the players assess the brand name of the game. On the other hand, the players assess how the game will be played later on. Some players may not have the time or willingness to go through the entire duration of gameplay process to achieve the desired level, thus companies noted this impatience nature and offer shortcuts to players in the form of microtransaction (Evans & Elizabeth, 2015). From there, companies started to take advantage of the impatient nature of gamers to sell their products until it becomes a habit (Wong, 2018)[45]. The evolvement of impatience affecting gamers' purchasing decision leading companies to utilize microtransaction warrants the need to further explore types of content surrounding microtransaction in understanding gamers' preferences better.

2.2 Types of Content in Online Games

To determine the consumer preferences in online game, this research first needs a simulation of what kinds of video games are sold in the market and in what ways gamers play the games. To achieve this, observations were made by the authors on the video games that are available in the market. From the observations, it can be concluded that there are five categories of video games that involves microtransaction.

Table 1 Conjoint Attributes and levels

Attributes	Level, Descriptions
(A1) Mode	L1: Single Player L2 Multiplayer
(A2) Genre	L1: Sports L2: Shooter L3: Role-Playing
(A3) Microtransaction	L1: Cosmetic L2: Functionality
(A4) Price	L1: $20 L2: $40 L3: $60
(A5) Payment Method	L1: Real Currency L2: Virtual Currency

2.2.1 Mode

The existing games in the market are categorized into two modes of playing for gamers. One is the Single Player

mode where only one gamer is expected in a gaming session (Solomon, 2012)[36]. A Single Player game title focuses solely on its story-based essence of the game,

ensuring players the experience its storytelling journey of the game. For example, while Uncharted Series (2017) relies heavily on its story campaign, Tomb Raider Series (2016) is famous for its rich story regarding its protagonist Lara Croft. Another example would be Heavy Rain (2010), a cinematic style game that encourages the gamers to dive into the world of the game's universe and is regarded as one of the most cinematically driven video games of all time. Another gaming mode is Multiplayer game, where more than one player input is expected in an environment at the same time in a gaming session. Examples of multiplayer games includes Dota 2 (2011), Overwatch (2016), Fortnite (2017). There are also game titles that have both Single Player and Multiplayer mode, i.e. Gears of Wars (2008), Uncharted series (2017), and Halo series (2001).

2.2.2   Genre

With the ever-expanding gaming industry, more and more people are able to get their hands on the latest and greatest game titles on various gaming platforms. The availability of game titles across different platforms ensure meeting the ever-expanding wants and needs of different gamers, where game developers cater to various types of gamers with different individual taste by categorizing games into genres. Research has found that there are approximately 12 types of popular game genres, all specialized in its own categories (Solomon, 2012)[36]. Leaning on this particular research, we have picked 3 genres to be studied further in this research, namely, Shooter, Role Playing Game (RPG), and Sports. These 3 genres are picked due to the fact that they are among the oldest genres and most widely accepted in the gaming industry that cater to many gamers throughout generations, making them highly profitable genres in the eyes of game developers.

2.2.3   Price

The business model of the video game industry mainly consists of value creation for consumers and producers, revenue generation models, and key processes and resources to deliver value (Myriam Davidovici, 2014). The video game business model has several variances, such as subscription, virtual goods, free-to-play, freemium, crowdfunding, early access, premium unit price, hybrid, player to player trading (Myriam Davidovici, 2014). Of the many business models in video games, Myriam Davidovici (2014) categorizes into two forms, namely, Pay to Play (P2P) and Free to Play (F2P). Arampatzis Paschalis (2014) finds that there are also other various types of business models in the video game industry, such as Pay-once / In-game Fire and Forget advertising models, User Generated Content, Video Games Betting Sponsored Games / Donationware Crowdfunding, Subscription, Pay per play / Pay as you go / Pay per time, Bitcoin mining as a means of payment, and Microtransactions. Of all these business models, they are derived from two categories, Game as a Service and Game as a Product (Arampatzis Paschalis, 2014). With the various types of business models that exist in the world of video games, the pricing strategy of each

business model is widely different, where one of the most influential factors in determining pricing strategy is the target market (Myriam Davidovici, 2014). The price of one copy of a regular version game (physical or digital) ranges from $20 up to $60 as the publisher or producer of the games sets the price for their products and that dynamic has been the norm in the video game industry.

2.2.4   Microtransaction

Microtransaction is the low-cost expansion of a game (Tomić, 2018)[43]. This in-game expansion can be in the form of new content in a game, for example, in Fallout 3 where additional areas within the game can be purchased, as well as enhancements or supplements by buying bullets that can penetrate armor in the World of Tank game. Microtransaction can be spent for various types of digital content should the players wished to do so (Evers, et al, 2015)[9]. According to Tomić (2018)[43], microtransaction has three scopes of what is offered in a game, namely, cosmetic, additional content and pay-to-win. Cosmetics are the most general form of microtransaction for gamers because cosmetics do not affect the gameplay or mechanism of the game. First scope, cosmetic products such as costumes for characters that the gamer already possesses, buying new characters or narrator sounds for a character do not change anything for the gameplay itself. For example, Far Cry 5 and Overwatch. The second scope is additional contents that do not change gameplay or create imbalances among players, such as buying new missions in action games, new nation or scenarios in strategy games, new cars or trucks in racing games, classic team in sport games, or new characters in fighting games. DLC is the name of a combination of these content. But, DLC is not included in microtransaction because the transaction process is not in-game and the price can be as same as the original game and can even be more expensive. Examples of games that have DLC include Mortal Kombat X and Mass Effect 2. The last and the least popular scope among gamers is the purchase of a product that affects the dynamics in the game. For single players, this transaction can increase promotion and allows players shortcuts to advance in game. As for multiplayer mode games, this transaction provides benefits to players who make transactions and discriminate against other players who do not pay. Therefore, for players who pay, the strength in game will be increased and affect the balance in the game among players and increase the chances of paying players for winning. This type of microtransaction is commonly referred to as pay-to-win. "Selling time" can also be one form of pay-to-win where for the free user to get something, it requires a certain amount of effort and/or a certain time limit to unlock the required content. While there are many types of content that can be purchased in-game in the form of microtransaction; this research will focus on Cosmetic & Functionality related contents because these function of microtransaction generates the most revenue (Grubb, 2018[14]; Thier, 2019)[41]. The players that purchase microtransaction are perceived

differently from other players (Evers, et al, 2015). Cosmetic contents are a type of content that a player can purchase, which allows the players to change the aesthetic aspect of the game. For example, buying additional costumes (skins) for existing characters in the game, different looks for characters, additional music tracks, a different voice of a narrator or characters and decorations that change the environment but have no effects on the quality of the game. Functionality contents are a type of content that players can purchase to help them gain an advantage in the game, in the form of shortcut to advance against others or enhanced chance of winning. For example, Middle-earth: Shadow of War buying minions and/or items that gives the player an advantage, and in the case of the mobile game Clash of Clans players can buy collectable cards instantly (Tomic, 2017)[42].

2.2.5   Payment Method

When players decided to make an in-game purchase, depending on the game, they have a choice to buy the content using a virtual currency (in-game currency) or real-world currency. Whether virtual currency or real-world currency, these purchases cost real money. While virtual currency converts the real money put in by the player according to the in-game rate, real money purchases allow players straight up buying with real currency. Yamaguchi (2004) claims that, in ordinary economics, in-game currency is not considered real because it is part of a game. In general, money has functions as a medium of exchange, a measure of value, and a means of storage. An object will have the functions as money if the object has a value. The value in the virtual currency is only valid for use in the virtual world, for example, the currency in monopoly is only used and has value only in the game. However, this does not imply a problem for virtual currency as a currency. For example, Indonesian currency cannot be used in other countries but can be used in Indonesia because it has value in Indonesia and not in other countries. Therefore, the value of an object can be referred back to the value possessed by the object (Yamaguchi, 2004). According to Tomić (2018)[43], payment methods can affect a person's decision to buy something. In the game, someone wants the transaction process to occur in the simplest way and does not interfere with the gaming process. by slowing down the transaction process, as a result it will have an impact on decreasing desires. psychologically, someone will try to avoid spending money on additional content unless they want it or need it. and psychologically too, someone is easier to buy something if they do not know the original price or can not compare the price with other products. virtual currency can influence the decision making by creating a premium currency. This premium currency works as a real-world currency but in the game. virtual currency can be bought through the premium currency. Premium currency can also be obtained by gamers in the game, for example by getting a reward from a mission, but not as much as a virtual currency. its function is to provoke and create a sense of dependence on the use of premium currency and also create a bias value so that gamers do not know the original price (compared to real-world currency) and cannot compare it to the content in other games. Examples of games that already have this concept are, clash of clans, Dungeon Keepers, Clumsy Ninja, Game of War, Farm Heroes saga, and real racing 3.

3.   METHODOLOGY

In order to satisfy the objective of this research, a quantitative research was held. The main characteristic of quantitative research is that it is mostly appropriate for a medium to a large sample while having its outcome measurable (Ashley & Boyd, 2006). Which is the main advantage compared to a qualitative research.

This research will be conducted on the internet on public websites like Reddit. Specifically on dedicated gaming forums like subreddits or official ones. We chose this because it is up to the judgement of the researcher to select the respondents, in this case, gamers. Websites such as Reddit guarantees that the respondents would have the sufficient knowledge about the subject being researched. Because they have dedicated subreddits/forums where people of similar interests gather (CGPGrey, 2013). The nationality of the respondents are not imperative for this research (Jacobs and Ip 2004).

The main segment for this research are gamers. Though there are no tight restrictions for the background of each participant however they need to be at least 18 years old (ESRB, 1994). This is due to the legal age required to purchase video games content freely without any restriction or boundary based on ESRB ratings is above the situated age. Except when their parents consent to their purchase.

3.1   Questionnaire Formulation

The first and most important decision in constructing the questionnaire was to consider whether or not demographic distinctions would be sufficient for an accurate segmentation of the computer and video games market. While some segmentation studies have found significant differences using gender and age classifications in terms of sociological and psychological issues, Forsyth et al (1999)[11]. Soper (2002)[38] would argue that as the market evolves, there has been a move towards 'needs'-based marketing. Needs-based marketing was developed around the rationale that if marketers understand a customer's current and future needs they can market the right product to them at the right time. Demographic information in terms of age and gender would also be used for comparative purposes. As well as helping to promote a more detailed segmentation.

Out of fifteen variables researched by Jacobs and Ip(2004) we have chosen the four most relevant for this research. The four variables are willingness to pay, play over long session, engaged in competition with CPU/other human players, degree to which purchasing decision is based on the genre/type of game. These choices are

supported by the usage of determining casual and hardcore gamers by Poels, Annema, et al (2012)[30].

That is the rationale we have taken on this research, based on those circumstances we have chosen four variables out of fifteen that were relevant to this research and they were designed by Jacobs and Ip (2004). Four of those variables are as follows.

3.1.1 Willingness to pay

The gaming industry doesn't differentiate the type of gamers based on their finances and or age; the industry categorizes the market with two types of gamers they are the "hardcore" and "casual", these helps the industry to pinpoint their targeted consumers based on the content that they have made. Hardcore gamers are inclined to spend money regularly on games and games-related products without waiting for price discounts and special offers. While casual gamers are characterized as those who want games for free.

3.1.2 Play over long sessions frequently

Playing video games is likely to be one of the hardcore gamer's primary hobbies. Long session could have mean that the content is thoroughly driven by the story, gameplay mechanic, etc; this could help to identity the success rate of a particular title, whether the gamer is actually enjoying the content that is offered upon purchase or not.

3.1.3 Engaged in competition with CPU/other human players

Separating between the casual and hardcore segment whether or not they actively engaged in competition while playing video games, the mode a game has to have

3.1.4 Degree to which purchasing decision is based on the genre/type of game

Types of genre in the gaming industry is wide and kept expanding, the purchasing behaviour on a game varies depending on the genre, one of the genres that fully impacted the purchasing decision of the consumers are shooter games such as Call of Duty, Battlefield, Counter Strike, etc; the game lets players to mainly customize aesthetics on the characters, bump skills via loot boxes or purchase new maps to play on, this created a never ending impulse demand for the players.

To determine the preferences of consumers a simulated product based on the available products in the market must be made. The attribute of content simulated in this research is divided into five categories.

- Mode
  - Singleplayer, Multiplayer
- Genre
  - First Person Shooter, Role Playing, Sports
- Price
  - $20, $40, $60
- Microtransaction
  - Cosmetics Only, Functionality Only
- Payment
  - Real Currency, Virtual Currency

Those who agreed to take part were asked to provide a score for each of the four variables and the simulated content using a ten-point Likert scale. For the behavioral variables the range of score is 1 for Not important to 7 Very Important except on where the answer for the respective question needs a numerical amount for an answer. And for the simulated content score 1 would be Strongly Disagree to 7 Strongly Agree. A standardised score (S) for all four variables and the simulated content will then be calculated for each respondent

As far as data collection tools were concerned, the execution of the research involved the use of semi-structured questionnaire, which was used as an interview guide for the researcher. Some certain questions were prepared, so as for the researcher to guide the interview towards the satisfaction of research objectives, but additional questions were made encountered during the interviews.

Some sample questions that were included in the structured questionnaire were the following:

1. How important is it to spend money on digital content?
2. How much are you willing to pay for microtransaction in a free game?
3. How much are you willing to pay for microtransaction in a paid game?
4. How many hours each week on average do you play cell phone games?
5. How many hours each week on average do you play console games?
6. How many hours each week on average do you play handheld games?
7. How many hours each week on average do you play personal computer games?
8. How many hours each week on average do you play video games?
9. How important is it for a game to have competitive multiplayer?
10. How important is it for a game to have cooperative multiplayer?

Continuing the previous series of questions, the respondents would be subject to the next part of the questionnaire which is the simulation of what kind of products that they prefer. Using SPSS (Statistical Package for the Social Sciences) 16 cards were calculated out of the five variables chosen, which are:

	Mode	Genre	Price	Microtransaction	Payment	STATUS_	CARD_	
1	Multiplayer	Sports	$60	Power Up only	Real Currency	Design	1	
2	Singleplayer	FPS	$20	Power Up only	Virtual Currency	Design	2	
3	Singleplayer	Sports	$20	Cosmetics only	Virtual Currency	Design	3	
4	Singleplayer	Sports	$40	Power Up only	Real Currency	Design	4	
5	Multiplayer	FPS	$40	Cosmetics only	Real Currency	Design	5	
6	Multiplayer	FPS	$40	Power Up only	Virtual Currency	Design	6	
7	Multiplayer	Sports	$20	Cosmetics only	Virtual Currency	Design	7	
8	Singleplayer	FPS	$60	Power Up only	Virtual Currency	Design	8	
9	Multiplayer	RPG	$20	Power Up only	Real Currency	Design	9	
10	Multiplayer	FPS	$20	Power Up only	Virtual Currency	Design	10	
11	Singleplayer	RPG	$40	Cosmetics only	Virtual Currency	Design	11	
12	Singleplayer	FPS	$20	Cosmetics only	Real Currency	Design	12	
13	Singleplayer	FPS	$60	Cosmetics only	Real Currency	Design	13	
14	Multiplayer	FPS	$20	Cosmetics only	Real Currency	Design	14	
15	Multiplayer	RPG	$60	Cosmetics only	Virtual Currency	Design	15	
16	Singleplayer	RPG	$20	Power Up only	Real Currency	Design	16	
17								

Figure 1

For the purpose of this research the method chosen for sampling the respondents will be judgemental sampling where the researchers select a particular population to be sampled based solely on their professional judgement and or knowledge, the method is based on the individual who select its own judgement that seems to be the most appropriate sample (Kothari,2004)below. However there is no way to evaluate the reliability of the sampling.

At least 100 valid response must be recorded in order to produce valid data (Jacobs, Ip, 2004). Within that range of samples it should be enough to paint a picture of what the preferences of paid game microtransaction for gamers are. The success of a judgement sampling relies on the excellence of the judgement, if the person is knowledgeable about the specific topic along with a good judgement ability then the sample selected will follow accordingly.

Conjoint analysis will be used to analyze the data which will be gathered from the questionnaire. According to North and De Vos(2002)below conjoint analysis places more emphasis on the ability of the researcher to theorise about the behaviour of choice than it does on analytical techniques. Thus it should be viewed primarily as exploratory, since many of its results are directly attributable to basic assumptions made during the course of the design.

According to Green and Srinivasan(1990)below there are six steps in conducting conjoint analysis those steps are:

Table 2 Steps involved in Conjoint Analysis

Steps involved in Conjoint Analysis		
1.	Selection of a model of preference	Vector model, ideal-point model, part-worth function model, mixed mode
2.	Data collection method	Two-factor-at-a-time (trade-off analysis), full-profile (concept evaluation)
3.	Stimulus set construction for the full-profile method	Fractional factorial design, random sampling from multivariate distribution
4.	Stimulus presentation	Verbal description (multiple cue, stimulus card), paragraph description, pictorial or three-dimensional model representation
5.	Measurement scale for the dependent variable	Paired comparisons, rank order, rating scales, constant-sum paired comparisons, category assignment
6.	Estimation method	MONANOVA, PREFMAP, LlNMAP, Johnson's non-metric tradeoff algorithm, multiple regression, LOGIT, PROBIT

According to Green and Srinivasan(1978)below, there are three ways to choose a model preference for conjoint analysis. The mixed model allows some attributes as following the part-worth function model. The vector model estimates the fewest parameters by assuming the linear functional form. While the part-worth model estimates the largest number of parameters because it permits the most general functional form.

Data collection procedures in the conjoint analysis have largely involved variations on two basic methods:
●the two-factor-at-a-time procedure
●the full-profile approach.
The two factors at a time procedure acknowledges multiple attributes all at once. Meaning that the respondents are asked to rank all of the exhibits from least attracted to, to most attracted to.

The full-profile approach is the approach that will be used in this research, This method displays the attributes of one exhibit at a time, as not to overload the respondents with information. After seeing the exhibit the respondents must give a score to the attractiveness of the exhibit.

For these reasons, conjoint analysis is usually done with hypothetical stimulus descriptions. This has the additional advantage of enabling us to compare predicted behavior with the actual behavior of the respondents towards real brands or services.

With that comes the fractional factorial design, consisting of a carefully chosen subset (fraction) of the experimental runs of a full factorial design. The subset is chosen so as to exploit the sparsity-of-effects principle to expose information about the most important features of the problem studied while using a fraction of the effort of a full factorial design in terms of experimental runs and resources.

Today the presentation of stimulus in conjoint analysis boils down to three-way.

●Verbal Description
●Paragraph Description
●Pictorial Representation

The verbal description here means that the researcher will be alongside the respondents in answering the questionnaire. Their role here is to describe the stimulus either using their voice or cue cards.

Paragraph description is exactly as it sounds, the exhibit is described in detail as a paragraph so that the respondents can make their own image of the description of the exhibit.

Pictorial representation presents the exhibit through several kinds of visual medium. Be it through images or live presentation of the stimulus.

Depending on the purpose of the study, the measurement can be either in terms of overall preference or willingness to pay. The latter is usually for studies of new products and services that consumers not currently using. In this research, the consumer's willingness to pay is the one going to be measured. This research will use the ten-point Likert scale to score the exhibit profile.

4. RESULTS

At the data collection stage, 100 valid responses out of 107 were collected only 10 were female, 91 were male and 6 prefers not to say, of which 7 were below 18 years old, 67 were aged between 19-24, 17 were aged between 25-29, 12 were in the age between 30-35, and finally 4 are above 35 years old. The data is then processed through SPSS (Statistical Package for the Social Sciences) from then on two clusters were made as the representation of the two segments, cluster 1 amounts to 36.5% and cluster 2 amount to 63.5% of the respondents.

4.1 K-Means Method

At the suggestion of Jacobs & Ip, gamers could be segmented into two types casual & hardcore so, two clusters were set for the analysis using the K-means method. The 16 profiles were used as the initial seed, as a result one segment amounts to 55 (51%) of the respondents and the other 52 (49%). The figure below is the mean representation of what the value for each profile according to each cluster.
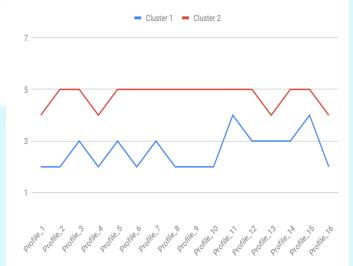

Figure 2: Representation of mean values on profiles for all the customers and each segment

Cluster 1: This segment consists of 5 females and 47 males. The average age of this segment is 19-24 years old, and the average hours of play per week are 16-20 hours. The majority of this segment (38 respondents) thinks that it is not important to spend money on digital content. This segment is more inclined to playing single player games and spends most of their playing time in their personal computer and smartphone.

Cluster 2: This segment consists of 5 females and 44 males. The average age of this segment is 19-24 years old, and the average hours of play per week are 21-25 hour. The majority of this segment (29 respondents) thinks that it is important to spend money on digital content. This segment is more inclined to play multiplayer games and spends most of their playing time in their consoles and handhelds.

4.2   Conjoint Analysis

The conjoint analysis resulted in the importance of each attribute. Microtransaction with the highest point of 33.698 means that the type of microtransaction a game has is perceived to be a most important factor of what a paid game microtransaction have, while the second most important is the genre of which the game belongs to, at 24.954.

Table 3 : Importance Values

MODE	10.200
GENRE	24.954
PRICE	18.033
MICROTRANSACTION	33.698
PAYMENT	13.115

Figure 3 : Utility Estimate

Utilities

		Utility Estimate	Std. Error
MODE	Single player	-.133	.046
	Multiplayer	.133	.046
GENRE	Sports	.098	.061
	FPS	.277	.072
	RPG	-.375	.072
PRICE	$20	.225	.061
	$40	.021	.072
	$60	-.246	.072
MICROTRANSACTION	Power Up Only	.440	.046
	Cosmetics Only	-.440	.046
PAYMENT	Real Currency	-.171	.046
	Virtual Currency	.171	.046
(Constant)		3.617	.051

For the Mode attribute, Multiplayer level was chosen to be the main preferences by the respondents when compared to Single player level. Next, for the Genre attribute, RPG level is the least preferred of the levels followed by Sports and FPS (First Person Shooter) as the most preferred. Price attribute, the level that has the highest preference is the $20 option. Then for Microtransaction, the option of having Functionality the Only type is the most preferred. Lastly, the most preferred type of Payment is the Virtual Currency when compared with Real currency. From all profiles, Profile 10 have are the most preferred by both of the segments. Profile 10's attributes and levels consist of multiplayer, FPS, 20$, power-ups and virtual currency.

5.   DISCUSSION

According to Jacob and Ip (2004) to segment the video game market they propose two segments called 'hardcore' and 'casual'. In our case cluster 1 is considered casual and cluster 2 is considered hardcore because among other things, cluster 2 buy consoles only to play video games and on average have a higher playtime compared to cluster 1, and so are their preference for purchasing microtransaction.

Out of 16 profiles, profile 10 is the most preferred by both clusters and its attributes being multiplayer, FPS (First Person Shooter), 20$, power-up only, and virtual currency. While for each cluster, cluster 1 only has the highest median preference level at number 3 of 7 points, namely profile 3, 5, 7, 11, 12, 14, 15. whereas in cluster 2 has the highest median preference level in profile 11 on number 6 of 7 points. The results of the Conjoint Analysis says that attributes and levels influence enough utilities and clusters. But this research determines attributes and levels by using existing observation methods in the market.

Nowadays, segmentation in marketing plays a significant role in differing how to communicate and choose which product or services to sell. Results from conjoint analysis say that the attributes and levels from each profile influence the desired product, the highest being the microtransaction type, followed by genre. The practical implication of such results would be that companies need to pay more attention to what type of microtransaction they are shipping with the game.

6.   RECOMMENDATION

Since the nature of this research is exploratory then as stated by Sandhursen (2004) the findings cannot be used in a practical way but are useful as a groundwork for future studies. For future research, it is recommended to delve deeper into the geographic and demographic aspects of each segment. The choice of attributes and levels are based on the observation of what is available in the

market at the time of writing, in the future, some might need updating. This research did not account for the brand of a game being the factor of reference for consumer preferences. Brand meaning the series/title of the game itself.

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