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What sells video games? A qualitative study into customer preferences in video game design.

Oskari Luolila

International Business

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Supervisor: Lobna Hassan

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SCHOOL OF BUSINESS

Mikkeli Campus

ABSTRACT OF
BACHELOR'S THESIS

Author: Oskari Johann Aleksanteri Luolila

Title of thesis: What sells video games? A qualitative study into customer preferences in video game design.

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Objectives
The main objectives of this study were to investigate what aspects of video games that appeal to the customers the most and can aspects make video games profitable and increase sales.

Summary
Why do we see failed video games in the market, even after they have had investment of millions of dollars sunk into them? Is there a way to identify what makes a good game? By conducting a survey aimed at gamers and researching the customer preferences it should be possible to identify what aspects of video games make them popular and thus profitable

Conclusions
The thesis confirms that it is possible to predict consumer preferences on video games by using human factors (in this thesis age and gender) but due to differences being quite small it is not advisable to attempt to make so called "Boys' games" or "Girls' Games". Additionally certain design aspects, for example difficulty, can be used to make the game slightly more interesting towards one group or another but due to the difference in preference being so small, the game will likely attract consumers of other groups as well.

Key words: video games, video game design, video games industry, video game customers.

See: **http://web.lib.aalto.fi/en/helevoc/pdf/**

Language: English

Grade:

Contents

1. Introduction

1.2. Background

Can we determine a games appeal to the consumer before it is published? Often games see relatively good reception from the consumers at the time of its release, and some are even massive successes. On the contrary there are also games that see horrible reception and drastically lower sales than originally anticipated. A good example of this would be the 2021 release of Battlefield 2042. Many fans of the game had waited for the next title of the ever-popular Battlefield video game series and when some months previous to the release EA, the publisher behind Battlefield published a limited time open Beta. Reactions to the game at the time of the Beta were mixed. Some were excited for the massive changes to the game, and some were sceptical of them. All agreed by the end of the Beta that the game still needed more work as it had many systematic problems with game stability. When the game released it gained little attention and the months following the release the game lost a lot of players. It could be considered a failed game as many competing games had tens of thousands of hourly players, where Battlefield 2042 gained merely one or two thousand. The biggest indication of failure was in October 2022 when a previous game of the battlefield series, Battlefield 1, released in 2016 had a massive sale, resulting in massive boom in its hourly players, reaching as high as fifty thousand hourly players.

Why did this five years old game have fifty times more hourly players than it's barely a year-old new counterpart? Putting this into business terms: why did a new, updated product see 2% of the usage of the older product when the newer product should be better in every way? Simply put, the product was bad. It did not deliver what the customer expected. So why did this happen? Why did EA deliver a bad product? More importantly, could this have been avoided?

1.3. Research problem

The video game industry certainly knows how to follow trends but even when the games that are produced sell, are they the games that the consumers expect, or are they just the closest substitute for what the consumers really want? If so, is there a possibility that games that realize what consumers like and dislike gain notable increase in their player base and moreover, create stickiness meaning that the gamers stick to that game and the brand/studio that produced the game? More time spend on single game with single company means more revenue or more unrealized revenue to that company. I don't believe in perfect games, but I believe in better game design practise. I believe in making games for the sake of making good games and not just games to cash out on people and I believe that if we make games in for the sake of making good games and the product is as such, there is a possibility of gaining more revenue as a side effect.

1.4. Research questions

This thesis is aiming to answer these specific questions:

1. Are there certain aspects that makes certain video games more liked than others?
2. Can we predict the success/popularity of a video game based on human qualities (such as age, gender)?

1.5. Research objectives

The main objectives of this study are to investigate what aspects of video games appeal to the customers the most and make video games profitable and increase their sales.

1.6. Outline

The structure of the thesis is as follows. First the thesis will focus on the secondary research or the literature review to improve the understanding of the topic, the text focuses on explaining the methodology of the research and how the analysis works. After that there will be explanation of the results of the survey after which the results will be combined and looked at with the findings from secondary research in discussion. Finally the paper concludes with the main findings and conclusions of the research.

1.7. Definitions

Some of the main definitions of the important terms used in the thesis.

VCE - Virtual customer environments which are used for interacting with the product and other customers outside the products own closed environment.

Freemium - refers to the payment method of free to paly video game which offer the possibility of paying for additional services and improvements.

Pay to Play – refers to the payment method where you pay once for the game and there is no need for additional payments.

2. Literature Review

2.1. Introduction

This literature review focuses on the topic and literature area of video game user or players or gamers, as they are more often referred to, and their video game preferences with the purpose of generating a general understanding of what the previous research and literature have found out of the topic and enlarging my understanding of the topic.

Before I started the looking for articles, my idea and plan was to find as many articles surrounding the customer preferences and specifically what the gamers liked and didn't like, but as I started reading the articles, I learned that this topic is a lot more complicated and multifaceted than I originally understood. Before the review my scope was very general, and I thought that the matter would be as simple as dividing the parties to customers and developers and figuring out a general connection between the two parties that would aid to make the "perfect game". Now I have understood that there are more variables to be considered. The developers cannot simply just overlook people's qualities and make games to a general audience. It is paramount for the developers to consider the gamers' personal qualities such as gender, personal interests, previous gaming experiences, age, and personality. On top of this the developers must pay attention to human phycology and thus ethical game design.

2.2. Definition of games

Games in general are described as actively trying to overcome challenges set by the activity and are guided by rule systems also known as mechanics(Björk, 2003; Malliet, n.d.) A game can serve as either mean or end depending on the gamers intent(McCaffrey, 2021). Due to these definitions I believe it is important to consider these field of literature to understand what sales games: **Literature regarding human nature and personal qualities** can help us understand what qualities in

people attract them towards video games and what kinds of video games specifically; **Literature about the video game design** is used to recognize patterns and set types of video game design and mechanics that dominate the market and attract players; **Video game business literature** focuses on the sales numbers and patterns and branding that is used to understand the business side of game design; **Ethical video game literature** is crucial because as any other business, it is important to acknowledge the ethicality of your product already in the design phase. Considering these aspects from the literature, I have composed this literature review to create an overview of the topic.

Some of the most important articles that I consider central to my research are: "*You Are What You Play? A Quantitative Study into Game Design Preferences across Gender and their Interaction with Gaming Habits*" (Vermeulen et al., 2011), "*Unfair play? Video games as exploitative monetized services: An examination of game patents from a consumer protection perspective*"(King et al., 2019) "*A survey of video game preferences in adults: Building better games for older adults*" (Salmon et al., 2017) and "*The dual nature of escapism in video gaming: A meta-analytic approach*" (Hussain et al., 2021).

2.3. Human nature and culture in video games

As mentioned before, Gender is one of the important variables affecting peoples' preferences in video games and so it shows in the literature. Gender alone has a significant correlation to what kind of game you play, but it is not a single independent factor, rather it is a part of a set of variables (Vermeulen et al., 2011). Even though the traditional idea is that the market is dominated by games made for males, there are still several females that enjoy the same video games. Aside from gender, previous experience and whether the gamer is a core player or non-core player matters to the gaming preference (Vermeulen et al., 2011) According to Vermeulen et al, the video game preferences between female and male core players

and male non-core players are quite similar. This could indicate that the more there is experience in the video game technology, the more similar the taste in video games is.

According to (Salmon et al., 2017) age difference makes a great difference due to different age groups having different experience with different kinds of technology. Thus, new technology might feel foreign to older age groups and thus diminish the positive experience with the game. Older age groups also enjoy more simpler games that are easy to learn, and the mechanics are not too hard to internalize. These games are for example: puzzle games, strategy games, educational games, simulation games, sports games, and gambling games (Salmon et al., 2017). Games that appeal to the younger age groups are for example: action-adventure games, RPGs, FPS games and party games (Salmon et al., 2017). The social aspects of video games are shown to be consistent with all age groups thus meaning that socializing in general is consistently important to people of all ages and improves their enjoyment of the game (Salmon et al., 2017).

2.4. Video game design

(Kaimann et al., 2018) suggest that previous experience with games influence the game enjoyability. According to their research experienced gamers are less likely to continue playing the same game, presumably becoming bored of the game, and looking for change.An important trend in the literature seems to be variance. Articles such as (Kaimann et al., 2018; Salmon et al., 2017) mention variance in video games and gameplay. It is most important in terms of Keeping players interested in games and making games enjoyable for gamers. (Kaimann et al., 2018) notes that variety in roles and vehicles and greater opportunity in the selection and customization of the character abilities increase customer loyalty and participation with the game. On the other hand, (Salmon et al., 2017) focuses on the effect of variance in different age groups and does not find any significant difference between age groups. All age groups showed the same positive significance towards variety.

Sometimes, designing good games alone is not sufficient to appeal to the consumers. That is why other media such as movies, books and even board games are used as bases for video games (Marchand & Hennig-Thurau, 2013). According to (Wuts et al., 2012) some of the most sold video games are from brands that are outside the video game industry. Captivating storyline, interesting characters, or topics relative to real life (sports and other activities) are some of the most common selling points for video games (Wuts et al., 2012). It is important to keep in mind that deriving too far from the source material can lead to the video game failing. Changing facts about the original characters, world, or topic causes the fans of the original material to be repelled to an extent(Wuts et al., 2012).

Time is an important factor in video game and design decisions can affect the player base greatly (Rapp, 2022). Time design determines the players engagement with the game and determines the phase of the game(Rapp, 2022). Maximising the engagement with the game means people play the game more and this would lead to high revenue yield. Down side of maximising engagement ergo, game time, is that not there are a lot of people who don't have the time to sit down for long periods of time to grind in WoW. Due to time constraints time consuming games drive away busy consumers.

(Piralova et al., n.d.) notes that the background of the game developers is changing. From an entertainment industry, video game industry has changed into an innovative high profit and high education employment (Piralova et al., n.d.). This factor may either improve or decrees the quality of video games as money (high salary) becomes a driver rather than creation of art/entertainment. On the other hand higher education may boost the technical skills thus the quality of games.

Business and video games

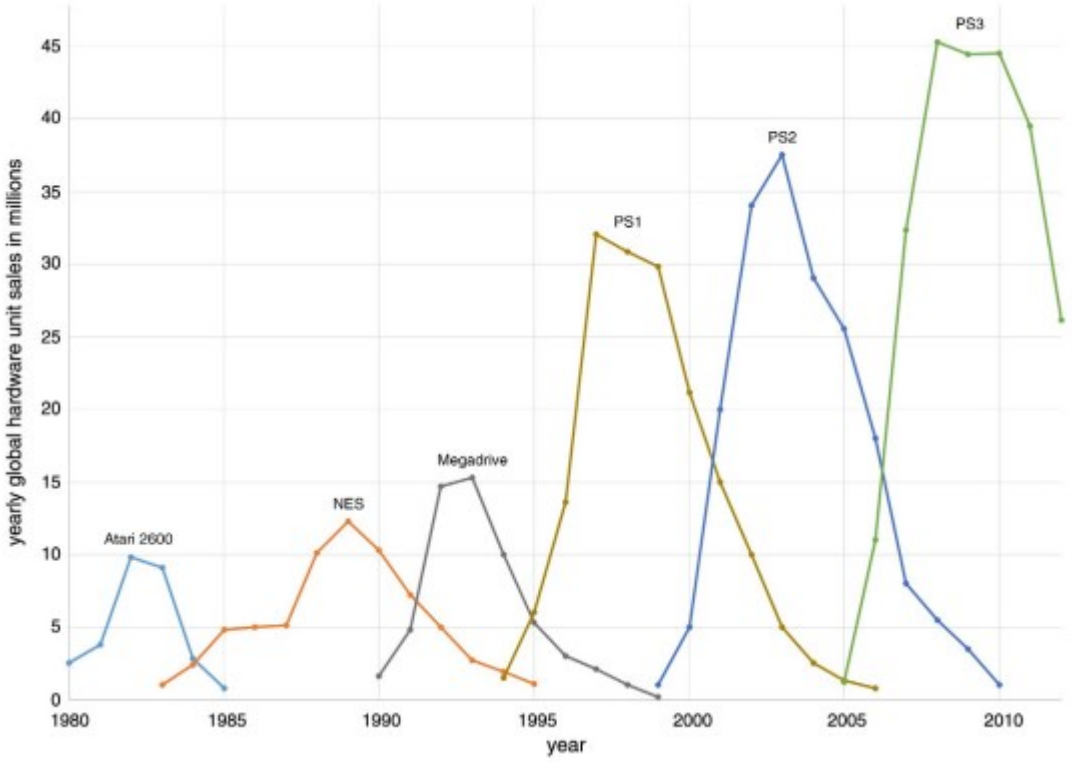
According to (Marchand & Hennig-Thurau, 2013) video games are the fastest growing form of media and thus it is fair to consider video games as a lucrative business opportunity. Proof of this can be seen in the sales numbers of “Grand Theft Auto IV” which had massed $310 million in 24 of its launch (Babb et al., 2013).

VCE or virtual customer experience have been identified to improve consumers attitudes towards brands and the host of the interaction (Nambisan & Baron, 2007). Companies such as Volvo have invested considerable effort to establish VCE where the customers can interact with one-another to discuss the products, help each other and get updates on most current news regarding the brand and its products(Nambisan & Baron, 2007). Now a days video games industry is very well acquainted with this as many digital marketplaces (steam, U-play, EA launcher) serve as marketplaces but also VCE platforms. On top of this there are many dedicated 3rd party service providers such as reddit and discord that provide VCE services for gamers along with other groups.

The benefits of social interactions surrounding the video games are further advocated by (Alexander & Hidayat, 2022) who examined the effect of social influence, perceived quality and perceived enjoyment towards brand loyalty of Valorant. The social environment is proven to improve the players satisfaction with Valorant. In addition, this increases the consumers loyalty towards the brand (Valonrant) (Alexander & Hidayat, 2022). This means customers stay longer as they are loyal to the product and the brand, and this means more stable revenue.

2.5. Video game sales and monetization

Technical factors such as network connectivity, variety of games published on the platform and quality of hardware effects console sales (Marchand & Hennig-Thurau, 2013). This may in turn affect the future sales of video games due to some titles being exclusive to specific platforms. This exclusive publishing is further incentivized as (Marchand & Hennig-Thurau, 2013) points out that multihoming affects platform sales negatively. This makes it lucrative for platforms to acquire exclusive rights to video game titles. On the flipside to this it is the video game studios point of view where it is more profitable for them to publish video games on multiple platforms. (Babb et al., 2013) argues that it is profitable for video game studios to multi-home because this gains them significant attention across multiple platforms and thus attracting more customers to their video game titles. Downside to this is that platform owners may charge more for upkeep if the title is multi-homed as it loses the platform potential customers (Babb et al., 2013).



This graph by (Marchand & Hennig-Thurau, 2013) depicts the yearly sales of video game consoles from 1980 to 2010. Analyzing it, one can see that the general trend in video game console sales are growing. Studying individual lines we can see sharp grow in the first few years which then declines rapidly after the apex. This becomes especially true as we progress the timeline towards the end. These decrees could be explained by the release of the next generation of consoles. Close study reveals that the decline usually starts a year or so before the launch of the new console. This most likely is because the knowledge of the next console generation is released a year early to build up anticipation. A fair speculation would be to say that people stop buying the current console because it is common knowledge that it is about to become outdated and people rather buy the new console. Which will have support and new games for the further into the future, rather than the current console which will lack both in a few years.

Why is this analysis important? It is important regarding the sales of video games. As the generation of video game platforms change the sales of the old consoles' decrees, which in turn decreases the sale of video games specific to that generation of consoles. This means that a single game is not profitable for a long period of time (more than 5-6 years) if it is console/generation specific. This problem has become more or less mitigated in present day as many games see cross generation support and remakes.

According to (Salmon et al., 2017) the age of the gamer also affects their preference in different consoles. Older age groups play less with gaming consoles and touch screen devices and are more comfortable playing with desktop devices (PC) (Salmon et al., 2017). This is most likely because PCs are more familiar to them and playing with controllers require for them to learn completely new system of control as the schematics of video game controllers are not usually familiar to older

generations. Younger generation is quite well rounded in their gaming platforms, playing most all platforms(Salmon et al., 2017).

Analyzing data from blockbuster video games also reveals connections between the platform and success of the video game (Cox, n.d.). According to (Cox, n.d.) there are three main factors to making a successful game. Platform, publisher, and high production quality. Games published by large publisher/studios, popular and widely available platform and access to large quantity of resources are the most likely to success(Cox, n.d.). This result contributes to the economic theory of high investment high yield.

According to (Johnson & Luo, 2017) people connect value to the act of purchasing and owning video games. Behind this are two value that are identified as cultural value and gaming value(Johnson & Luo, 2017). Cultural value explains the perceived value behind the purchase act owning the game itself and gaming value explains the value consumers perceive from playing or consuming the game(Johnson & Luo, 2017). This suggests that video games are not only sold because the game itself is entertaining, rather there are unconscious psychological factors that are affecting the purchase decision.

Regarding revenue generation models there exists two dominating models: “Pay to play” and “Freemium”. Of these two Pay to play is more traditional and as it represents the traditional model of trade where goods are exchanged for currency. Freemium is newer form for revenue generation. It is most used in mobile apps and video games as well as console and pc MMOs (Chua et al., 2019). Freemium games allow the player with free access to the game. They generate revenue by selling items, services, or shortcuts to the players (Chua et al., 2019). This method is also known as in game sales. According to (Chua et al., 2019) this model has become

quite successful and thus it has attracted the attention of the studios behind pay ton play games. This can be seen in the form of in game purchases of mainly cosmetics and in some cases in game boosts. (Chua et al., 2019) argues that in game purchases and more over so freemium model of revenue generation works due to gamers impatient behavior which leads to irrational and impulsive purchase decisions. This is especially true for casual gamers who play video games every now and then and for shorter periods of time as they are less used/have less time to spend on long dragging sessions and it seems easier to skip over tedious parts of the game to get to the interesting part by spending money on shortcuts (King et al., 2019).

That is partly why this sort of practice could be deemed unethical game design. This revenue generation model exploits the human psychology and can be harmful to those who are especially vulnerable for example, people who suffer from gaming disorder or underaged children (King et al., 2019). There have been reports of people spending thousands of USD in game transaction and this combined with vulnerabilities may lead to serious financial damages to the vulnerable individuals(King et al., 2019).

2.6. Ethical factors

Another ethical factor is to consider the balance between the intended gameplay and the ethics of that gameplay and playability(de Smale et al., 2019). De Smale et al, writes in their paper “The Case of This War of Mine: A Production Studies Perspective on Moral Game Design” about their study into the design process behind the video game “This war of Mine” which is set in a civilian perspective of a imaginary war and thus handles heavy topics that are associated with war. During design the team had to find the fine line between ethically challenging and immoral gameplay to make the players reach the limit of their comfort zone(de Smale et al.,

2019). For example, the game has topics of sexual assault which is a sensitive and possible even traumatic topic for some consumers. Too graphic depiction of the topic could ruin the whole game and cause trauma to the player, but completely leaving it out of the game is not an option either, as it is a common horror of war and denying the gravity of such horrific action is disrespectful towards real life survivors of sexual assault.

Video games are often associated with escapism which cannot be argued but what is more under debate is the nature of escapism and whether the effects of escapism are negative or positive (Hussain et al., 2021; Liao et al., 2022). (Liao et al., 2022) Argues that escaping to video games from the real world, may help gamers mitigate negative emotions and help people cope with difficult feelings like anxiety and depression. On the other hand, (Hussain et al., 2021) argues that escapism is duel natured which neither supports or denies Liao's argument. According to (Hussain et al., 2021) their test results were quite similar with negative outcomes slightly over weighting the positive outcomes. According to Hussain, there was also difference between cultures (Western and Non-Western) so that Non-western cultures showed less of a negative outcome to escapism than Western cultures did, thus introducing culture as a factor to the effect of escapism.

Escapism is closely related to immersion as immersion allows the player to shut out the external, real life stimuli. According to (Abbasi et al., 2019) the immersion is affected by the type of engagement the gamer is experiencing. Cognitive and affective engagement are experienced through emotional involvement (for example emotional connections to characters) and arousal, and behavioral engagement is experienced through action/reaction to stimuli (Abbasi et al., 2019). In other words, whether the game arouses emotions has a direct impact on the immersion and thus also the escapism. Games that invoke emotion cause the players to be more immersed in the game as it feels closer to real life and feeling the emotion created by

the game allows them to escape their real-life emotion, for example sadness or anxiety.

3. The Methodology

3.1. introduction

For this thesis I have concluded that in addition to secondary research, done through researching academic articles and journals, it is important to conduct primary research in the form of a survey. Secondary research might not be sufficient on its own as it does not directly answer the questions that the paper is trying to answer.

The main benefits of conducting primary research are Timeliness, which improves upon the secondary research findings as most are outdated in comparison to the current video gaming market (more than ten years old). Focused questions, enabling the data to answer specific questions that the paper aims to answer.

3.2. Research design: Survey

The survey aimed to find answers questions such as “Does age, culture, gender affect the preferences between multiplayer and single player games?”, “Is there correlation between age, gender, culture and the difficulty of the game” and “What genres are the most preferred and are there patterns/affects between ages, gender and culture?”

Choosing survey as the means of the research was since video game preferences are very personal, and surveys allow collection of global data, which enables observation of trends in larger population. Interviewing would allow more detail to be collected from the participants but, it would invalid data to observe global trends from.

Drawbacks of this survey are to be considered, especially in the phase of analyzing the data and its validity (Pamela S. Schindler, 2019). First off, the method of research is appropriate for the research, but it possess problems such as low control over the population. This could lead to skewed data, especially the variable of Nationality and Gender. If the survey ends up being too heavy sided on certain nationality, it will be hard or invalid to make international comparisons. Having heavy sided data on Gender leads to less validity towards observations on the minority

gender, but this could also lead to important findings, such as gender balance in the video game consumer base. Low control also poses the possibility of false answers or even purposefully falsifying answers as to tamper with the data.

3.3. Survey design

The survey was designed around these five central questions that the data was trying to answer.

1. Does age, culture, gender affect the preferences between multiplayer and single player games?
2. Does age, culture, gender affect the choice of platform?
3. Is there correlation between age, gender, culture, and the difficulty of the game?
4. Does age, culture, gender affect the preferences in payment method?
5. What genres are the most preferred and are there patterns/affects between ages, gender, and culture?

In order to answer the questions, there were created multiple questions probing each of these topics, often from multiple approaches. For example, question four (4) “Does age, culture, gender affect the preferences in payment method?” has four different sub questions:

1. I think that __ is an appropriate amount to pay for a new video game.
    a. Probing for concrete price categories to find out customer willingness to pay.
2. I consider freemium to be __
    a. Probing for opinions on freemium payment method
3. Subscription based games are __
    a. Probing for opinions on subscriptions as payment method
4. I prefer __ as payment method.
    a. Probing for the most preferred payment method

Most questions were designed as multiple-choice questions and some were left to be open ended. For example, few question had the option “other” which then asks to specify what else aside from the option does the person answering the questionnaire mean. This way the data collected is easy to analyze because the software utilized can recognize the given values. On the other hand, this presents danger that the data is bias (Pamela S. Schindler, 2019). If the design of the question is flawed or the answers were too one sided or the person answering did not agree with any of the options, the entered data might be faulty or invalid.

3.4. Procedure

The survey was distributed through social media channels such as Reddit and Discord because of their wide availability, ease of access and large user counts. On Reddit the survey was published on several public subreddits that were aimed at the topic of gaming or answering survey questions. On Discord the survey was shared with personal contacts and servers aimed at gaming. Other social media sites, such as Facebook, the survey was posted on the front page of my personal profile.

The channels of distribution pose a limitation and possible skewness with the variable of age. Due to older age groups not being so familiar with the some of these channels (Reddit and Discord) the age value might be limited to lower values. Moreover, these channels of communication might be favoured by some groups of platform users over another (for example PC players might use Reddit more than console players) leading to skewed data.

The collection of data started on 27th -of February 2023 and ended on 11th -Of March 2023, lasting a total of 12 days and accumulating total of 811 answers (N) before data cleaning.

The data collected from the survey was exported from webropolsurveys.com to IBM SPSS for cleaning. The cleaning was completed by eliminating the invalid instances.

Invalid instances were determined by the question “Do you play any video games (any platform)?” which was created to filter out made up answers from people who do not play any video games. On top of this the answers for two questions were reverse coded. The question “I think that the community around my favourite game makes the experience worse”, “I dislike difficult video games and prefer relaxing/cosy video games” and “I prefer single player games” which were answered by selecting an option from the range of 1=disagree to 5=agree. The questions were formatted so that agreement (5) meant negative results towards the factors in question.

3.5. Analysis

The analysis was conducted in SPSS using T-test and Linear regression line functions. The regression line function was used on every question to compare the answers and age correlation and the T-test was used to compare the answers with gender distribution. Culture was excluded as a factor due to the nationality of the study participants being unevenly spread, making it invalid to compare results based on the culture factor.

The analyses were done by combining the human demographics such as age, gender, nationality with video game design factors, such as platform, difficulty, multiplayer functions, and video game genre to map out the general idea of video game preferences.

In analyzing the results attention was focused on the T-test independent samples test significance P value and the t value. In Regression line the point of focus was on Coefficients significance level.

3.6. Secondary research

Secondary research was conducted in January and February of 2023 and the results were summarized in the literature review. Secondary research was conducted so as to provide a basic knowledge of the field and to examine the pre-existing knowledge

of the topic. Additionally, it service as a guide for primary research and a tool for analyzing the primary research results. For example we can make sense of the results of the survey and validate the results by comparing the collected data to the already existing research.

The secondary research was conducted by reading around 25 academic articles which were retrieved through the use of such tools as google scholar and Aalto primo, which is provided by the Aalto-University. These tools were effective but it is important to be careful while using google scholar as sometimes the results that google scholar provides might be off topic, or might provide you with research from questionable sources. Results from Aalto primo were from reliable sources that are managed and approved by the University's learning center, but due to higher control of the sources, the range of search results was narrower. Keywords used in the search are as such: "Video-game customer preferences, Video game users, Video game market overview, Gamer gender split, Customer loyalty in virtual environment"

4. Results

4.1. Introduction

Analyzing the results of the survey with SPSS reveals whether there are any significant correlations between the demographic factors, which are age and gender, and video game design aspects. Originally nationality/culture would have been taken into consideration, but due to unbalanced spread in nationalities of the respondents. Because of this, it is invalid to make comparisons between countries or assume global trends. 94,1% or 755 of the total N of 802 respondents are from Finland. Because of this no global observation can be made, thus the results apply to Finnish population and speculations can be made based on the secondary research.

Something important to consider is the gender split in the survey population. 75,4% of the respondents were male, 21,45% female and 3,37% identified as other. It is important to know that due to the imbalance in the gender split, the values of female and other respondents hold more weight than male respondent and are more prone to skewing.

4.2. Video game design

In testing for correlations between the variables age, gender, and which video game design choices, such as genre, T-test, and regression line for the question “What is your favorite video game genre?” both show statistically significant P-values (T test: P: <.001, T: 5.401; Regression: P : .028, B: 4.554) meaning both age and gender can be used to predict customers video game preference. Both males and females preferred role-playing games the best with significant difference to other genres but where they differ is the second most liked genre. For females the second most liked genre is Adventure games, where for males it is FPS (first person shooters). More

specifically female gamers second most liked genre, Adventure games, is only one (1) answer short from being equally as liked as Role-playing games.

The regression line test for the question “What appeals to you the most in your favorite video games?” shows statistically insignificant P-value (.699), thus the appealing quality cannot be predicted on the age of the customer. The T-test for the same question has significant P-value (<.001) meaning that there is meaningful connection between gender and what appeal to the individual the most in their favorites game. Overall, the most appealing quality in video games appears to be the gameplay mechanics (for example, controls, combat mechanics etc.) and story is the second most liked quality. The difference between genders is quite noticeable as 61,36% of all males consider mechanics as the most important quality and only 21,72% considered story as the most appealing quality. For females, the most appealing quality was story 41,28%, and the mechanics as the second most appealing quality with 29,07% of female respondents. The key difference can be found in the visual qualities. Of the male respondents only 5,14% considered the visual qualities as the most appealing but, of the female respondents, as many as 18,60% considered visuals to be most appealing quality.

Making tough choices had no statistical significance between age or gender, except for the T-test for the question “A though choice in the game has made it more enjoyable for me” (P: .007; T: 2.486). This seems to be conflicting data as the other question, “I think that making though choices (such as “choosing between two evils”) in the video game makes the game more interesting” showed no statistical significance (T-test: P: .284; Regression: P: .765).

When testing for correlations for difficulty in video games and the demographics factors, the regression test for both questions showed no statistical significance, making it clear that there is no significant affect from age towards video game difficulty preference (P: .089 and P .687).

On the other hand, the T-tests had significant P-value correlating effect between gender and difficulty preference. The means of both questions “I like that a video game poses difficult challenges for me to overcome” (P: <.001; T: 5.601) and “I dislike difficult video games and prefer relaxing/cozy video games” (P: <.001; T: -6.292) indicate that male gamers are slightly more prone to prefer difficult games. The preferences show that males are more heavily centered towards difficult games with few answers indicating preferring relaxing games, whereas female answers indicate more balanced results centering in the middle, but still more emphasis towards difficult games.

According to the test conducted in SPSS the gender seems to have significant effect on the respondent’s preference between single player games and multiplayer games. Every P value was less than 0.05 meaning that they are statistically significant, and the null hypothesis was rejected.

There general opinion seems to be quite neutral. None of the gender groups seem to clearly prefer one over the other. The means are all close to 3, meaning neutral.

After conducting the analysis there seems to be some conflicting data. The means for questions “I prefer Singleplayer games” and “I believe that Multiplayer functions improve video games” both shows that both forms are preferred slightly over the other, thus conflicting with each other. This could be because the questions are not exact opposites of each other’s, and this could confuse the respondents. For the question “What appeals to you the most in your favorite video games?” Only 9% of the respondents answered that the multiplayer functions are what appeals the most to them in their favorite video game. The gender split in this regard was around 1,3% difference, with 9,45% of males and 8,75% of females reporting multiplayer functions as the most appealing function.

The effect of age to the preference between Singleplayer and Multiplayer video games is also valid with all null hypotheses being rejected. The results suggest that

younger age groups prefer multiplayer function more than older age groups and that as age variable increases, the preference of Multiplayer games degreases.

4.3. Platform

While testing for which gaming platform does the respondents prefer the most, the T-test had a P-value of less than 0,05 (T: 1.725) meaning gender is a significant factor. However, the regression line has no statistical significance meaning that, at least statistically age has no effect on the platform preference.

In the population, males clearly prefer PC, with 74,46% of the males preferring PC/Laptop as their main gaming platform, whereas of the female respondents 58,14% preferred laptops and 32,56% preferring Gaming consoles.

Of all the categories of gaming platforms present in the survey, PC/Laptop and Console are the dominant categories, making up 96% of all the answers. Handheld consoles make up 2,71% and tablets and mobile phones only 1,03%. Only two respondents chose VR gaming platforms as their preferred platform for gaming which both of were males.

The T-test for testing what affects the respondent's choice of gaming platform, had no statistical significance (P .086), which means that gender cannot be used for predicting what quality would the individual appreciate. The regression line however showed significance which means that age affects what the individual appreciates.

4.4. Video game pricing and monetization

The testing proved that in general there are only few factors that affect the pricing preferences of the respondents. Out of 8 null hypotheses, only 3 were rejected and all others had statistically insignificant correlations with the age and gender factors. This is likely that the reason for this is that most values are nominal meaning they

cannot be measured on a scale, but SPSS recognizes them because they are formatted into a number to represent the answer. The 3 correlations recognized could be spurious relationship.

Supposing that the discoveries were valid, the significant correlations were discovered between the questions “I prefer __ as payment method” and age (P: .003; B: -0.06), “I consider freemium to be __” and gender (P: <.001; T: -3.341), and “Subscription based games are __” and age (P: .006; B: -.012). The question “I think that __ is an appropriate amount to pay for a new video game” had no meaningful correlations, meaning that neither age nor gender are applicable factors in trying to predict customers willingness to pay.

For the question “I prefer __ as payment method” most people (85%) preferred Pay to Play as the payment method rather than subscriptions or freemium. Looking deeper, 46% of the respondents think that Freemiums are harmful and 32% don’t have an opinion or don’t agree with the given options. Only 21% think that freemium is good, because of it is accessible for everyone. Subscription based monetization is worth the monthly pay by only 25% either because they spend so much time or because they consider it to be so much fun. 75% consider it not being worth it due to them either because they play so many other games that the periodical payment simply is not worth it or because they simply do not have enough time for it.

4.5. Time spent on video games

The Regression line test for the time spent on video games in a week showed no significance (P: .096) but the T-test did (P: .009; T: 2.617). The difference between genders seems to be quite small, with the means being only 0,2 different. From all genders the majority spend more than 12 hours in a week on video games, but for females the time spent was more balanced where 36% spent more than 12 hours, 18% spent 23-6 hours, 18% 6-9h, 16% 9-12 hours and 11% spent 0-3 hours. For

males 45% spent more than 12 hours, 18% spent 6-9 hours, 16% spent 9-12 hours, 14% spent 3-6 hours and only 6% spent less than 3 hours.

4.6. Conclusion of the analysis

Summarizing the results of the conducted survey and its analysis we can point out some of our major findings evaluate the results. The analysis was built around the questions mentioned in the methodology and the aim was to answer the questions to the extent that the data and its analysis allowed.

Afterwards we can see that there were some inconsistent results which could be caused by a variety of reason. For example, the most prevalent could be something as simple as a mistake that was made at some part of the research process. Something as simple as wording mistake in the forming of the survey or incorrect survey structure could have caused the survey to collect incorrect information and thus created skewed or invalid results. This is important to be aware of when moving onwards to discussion and comparison between the secondary and primary research.

5. Discussion

5.1. Introduction

After conducting the primary research and secondary research we can move on to comparing the results and discussing the implications. The discussion is going to follow the same structure that formed in results to make the flow comprehensive as possible.

The thesis aimied to explore what game do consumers prefer, why they prefer those specific video games, what platform they play those games on, why that specific platform and how much would those customers pay for new games and through what monetization methods they would prefer to pay and what are their opinion on the most popular monetization methods. Additionally, we can take into consideration the aspects of game design that were outlined by the primary research and consider what would their effect be overall.

The independent values that the primary research was built around were age and gender. These values were selected due to secondary research and the results based on that. Additionally, the independent values were intentionally selected to be human factors because customers are first and foremost people with their individual qualities and thus differing greatly from each other. Thus, it was established that the independent values had to be common between all humans and so the values of age, gender and nationality were decided upon, but nationality was removed later due to the primary research not being able to validly test for the effect of nationality.

5.2. The platform

The primary research explored what are the most common platforms that gaming is being conducted and why customers choose certain platforms. The results show that PC and laptop were easily the most preferred platforms by all ages and genders. Where the results differed by gender were the handheld consoles and tablets/mobile phones, that were preferred noticeably more by females.

The most common reasons behind the choices of platform were performance and platform specific qualities. In the secondary research it was pointed out that sales of consoles and other platforms are affected by technical factors in the hardware (Marchand & Hennig-Thurau, 2013) which is confirmed by the previously mentioned result in primary research. Additionally, the primary research had the dimension for exclusive titles that were referred to in the secondary research. The results show that the exclusive title was the third most important quality in a platform. In the secondary research it is revealed that from the point of view of the developer it is not as profitable to publish platform exclusive titles as they get less publicity from other platforms (Babb et al., 2013).

Combining the results, it would seem to be the most profitable option for the platform producers to try and obtain exclusive titles, which in hand is harmful for the developer. For the consumer multihoming which means having the game on multiple platforms would mean that the likelihood of them being able to obtain the title is increased without them acquiring the platform that the title would be exclusive on.

The difference in exclusive title market differs between platforms as PC /laptops have often been prime platforms for smaller, so-called Indie games that are often exclusive for PC platform. On the other hand, console markets often see more triple-A exclusive titles, which are often made with the efforts of the certain platform, in the hopes of attracting more customers to their platforms (Marchand & Hennig-Thurau, 2013). In other words, even though exclusive titles were not the most important quality of the platform, it is a powerful market driver, which encourages competition thus also driving the hardware competition to accommodate more developed titles, thus indirectly improving the performance of the platforms which is according to primary research the most important quality to facilitate the choice of platform.

5.3. The Video game design

In the secondary research, video game genres were related to difficulty and complexity of the video game (Salmon et al., 2017) which is then related to ages and older age groups preferring easier and less complex games. Opposingly the primary research showed not statistically significance between the age of the respondent and the difficulty of the video game. This creates an interesting situation of conflicting information which leads to the questions, why? The conflict could be caused by factors such as different testing environments, methods, difference in population and their ages.

Despite the age having no significance according to the primary research, there is significant affect based on the gender of the consumer. Despite conflicting information, there is evidence that male population prefers difficult games slightly over the female population.

Primary research discovers that there is significant difference between the customers favorite video game genre, based on their gender. All genders prefer RPGs, but the second most preferred genre differs. For female population the second most preferred genre was the Adventure games whereas the males preferred FPS games. The reasons behind customers preferring certain genre over another, which was explored in the primary research, shows that the most liked aspect is the video game mechanics such as combat or how the game functions. The second most liked aspect is story which is like all gender but the third most liked aspect changes. Where males appreciate multiplayer functions more, the females consider visuals to be more important.

In the secondary research it is mentioned that video games are typically considered to be market aimed at males (Vermeulen et al., 2011). The primary research neither confirms this nor denies it. We can observe from the respondent population that most respondents are males which could serve to confirm the before mentioned idea of male dominance in the market, but because there are no further tests to test for this hypothesis, it should not be considered as a valid measure for that purpose.

The social aspects of video games in the primary research are presented in the form of multiplayer functions. The secondary research shows that all ages value multiplayer functions equally (Salmon et al., 2017), but the primary research shows that there is some decrease in the importance multiplayer functions as age grows. The knowledge is not directly conflicting because the decrease is very small.

So how are these factors to be interpreted? There is no one answer to this. Both of parts of the research seem to either be lacking something or conflicting each other. Because of no valid/certain interpretations can be made. Because of this we are going to speculate that the primary research is correct for a speculative approach to the video game design. If we assume that the primary research is correct, we can say that it is possible to make games that are more segmented towards either male or female audience, but there are no such thing as boys games or girls games. Because the main points of each genders preferences matched with the other and only some smaller aspects changed accordingly we can say that if wanted you could change those aspects to make the game slightly more appealing to one gender. If we assume that the secondary research is correct and that the primary research failed, we can say that gender has little to no effect on what aspects of the games the consumer prefers, rather it depends on the experience of the gamer.

5.4. Video game pricing and monetization

The primary research was unable to make significant discoveries based on the gender of the consumer. This would seem logical as the wealth or willingness are not dependent on gender. Of course, the difference male vs females' salaries are to be acknowledged but it should not be a factor to this research. The testing was not able to make significant discoveries based on the consumers age either.

Some significant discoveries were the most accepted method of payment that was the pay to play which refers to paying once for a game without additional payments (Chua et al., 2019). Only less than 16% of the respondents preferred subscription or

Freemium, over Pay to play. In secondary research (Chua et al., 2019) notes that Freemium has gained more and more popularity over the time. Unfortunately, the primary research does not measure the development of a payment methods popularity. Considering these results together we could safely assume that the Freemium monetization model has grown in popularity but has not yet exceeded the popularity of traditional pay to play method.

Moreover the secondary research geos into more detail over the negative effects of Freemium model, which the primary research also tested for but should not be trusted completely due to bad structure of the question.

The overall opinion on subscription model was tested as well and the general opinion is that only around 25% of respondents would consider subscriptions-based games to be worth the periodical payments.

5.5. Additional information

In addition to the above-mentioned information that is confined to the limitations of the primary research, the secondary research reveals more information.

For example, one crucial factor is variety. In their paper (Kaimann et al., 2018) explains that variety inside a video game shows positive correlation with consumers staying longer with that one game. This can would suggest that if a game has a lot of different activities or change of phase it can keep the consumer engaged with that single game for longer periods of time. This is good for the developers for two reasons. First is that it means that their game is relevant for longer period, thus maximizing the number of possible customers. Second is that allows them to develop their next game for longer and thus having more opportunities to improve their design.

Another great design choice that the primary research did not cover, is that the game can take themes from other media outside the video game form (Wuts et al., 2012). This allows the game to draw in audience from outside the video game market, customers who don’t usually purchase video games(Wuts et al., 2012). A good example of this is the recent release of Hogwarts Legacy that was based on the

famous Harry Potter book series and later movie series. The release had massive global attention, including some controversial attention as well.

Other aspects include the interaction with the game outside of the actual game or interaction with the community, which has been shown to increase the consumers engagement with the game and thus increasing positive feelings about the game (Nambisan & Baron, 2007). This sort of interaction is commonly practiced around virtual environments designed for the sole purpose of community interactions (steam community, sub-reddits and discord servers) which can be referred to as VCE or virtual customer environments(Nambisan & Baron, 2007).

The last aspect is time usage. Time design can affect how long the consumer is engaged with the game and if the consumer even has enough time to engage with the game (Rapp, 2022). Slow phased games that require a lot of time to commit to might drive away customers who are busy and cannot afford to game for many hours at a time.

6. Conclusions

6.1. Main Findings

The main findings of this thesis are going to serve as directional to future research on further studying the video game aspects and customer preferences regarding these aspects. What was discovered during the research is not so much a definitive answer as it is implication towards the final answers of the aspects that can be used to predict customer preferences.

The thesis was able to confirm that it is certainly possible to predict consumer preferences using human factors and quantitative data. The amount of data has to be rather large to be applicable on a global scale and to be valid.

The subject should be approached in hierarchical order where moving from the top downwards, the matter of platform is handled first. Due to performance being the most apricated aspect of platform preference it should be taken into account while analysing for preferred aspects of video games. The market implications of the platforms and how the competition drives the constant development should be acknowledged as key factor for future of the research.

Of the video game design, the main findings would be the most preferred genre which is currently RPGs, and that there is slight difference between the genres and their preferred video game genre. The number one quality that affects the preferred video game genre is the video game mechanics and the story as the second most appreciated quality, with rest of the qualities varying by the gender.

Even though there are differences between the video game preferences by the gender, it should not be considered as a good idea to create games for females and games males due to the main appreciated qualities being the same and the variance so small. It can be used to target either of the segments SLIGHTLY, but nothing further.

The monetization systems are very widely split due to Pay to Play being so much more liked than other methods. Even though freemium has grown in popularity it has not exceed Pay to Play.

6.2. Implications for International Business

Because the video game market is a global market, and it is increasingly distributed through internet it is important for managers in studios to be aware of their customers preferences and what they want. From the results they could observe for example that if they want to make a game that is generally liked by everyone, they could focus on producing a video game that is an RPG and is somewhat difficult or challenging but not reaching the so called “Dark souls” level of difficulty. Statistically this would be the best possible game but then there are other factors, such as competition. The findings stated in this thesis can be used by managers to framework some parts of the process that is behind designing a new game. These parts are what genre of game to design, what platform to design it for, whether or not to focus on the multiplayer functions or not, what form of monetization to use. This way they can maximize their revenue and increase their customer base by appealing to what they are looking for in video games.

6.3. Limitations of the Research

The limitation of this research is focused on two points. Firstly, the scope of the research was too broad from the start. By narrowing down the area of focus the results could have been more significant and accurate. Secondly the faults in the survey design which can be divided into sub-points. The most prevalent fault was that the population was mostly from only one country and thus the validity of the international comparison was lost. Thus, the results that have been discovered from primary research are limited to Finnish customer base. Other faults are things like miswording questions, limiting the option for answering questions too much and possible errors in analysing the collected data.

6.4. Suggestions for Further Research

Suggestions for future research would be to focus on one aspect of the topic more and leave out other aspects that are less relevant. Such as ethical side of the secondary research in the case of this thesis. It is important but out of the topic range. Future research could focus on more nuanced reasons for people's preferences in videogame aspects.

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