bbw Hochschule | University of Applied Sciences

Master Thesis

Topic:

Decorative Elements as Monetization & Marketing Strategy in Online Games

Berlin, 2020

Submitted by: Matriculation number: Course of study: Management of Creative Industries Course number: First reviewer: Second reviewer:

Acknowledgements

I would like to thank a range of people that helped make this work possible. First of all, I need to thank my advisor Peter Konhäusner of the bbw University Berlin for his wholesome support throughout the whole process of writing this thesis. I would further like to show my appreciation to Yannik Beer for insights in the gaming environment and the purchase of skins. Accordingly, I want to thank the Reddit community for the participation in the surveys, the constructive feedback given and their encouraging words. I am also thankful for the support and encouragement received by my parents and grandparents. Macklin Buckler deserves gratitude for his inputs in the finalization of the thesis. Lastly, I want to thank my sister for her constant support, wisdom, and tough love.

Abstract

This thesis analyses the sale of virtual items in online gaming environments as part of a range of new business models that are tied to the rise of the internet. Based on a deeper understanding of motivating factors that drive players of different games towards their individual purchasing decisions, suitable management decisions can be undertaken. By understanding the needs of the gamers and tailoring marketing and sales efforts respectively, a higher level of customer satisfaction can be achieved. Thus, the research question for this thesis can be formulated as:

"What factors influence the decision-making process of gamers when buying purely decorative items in online games?"

Previous research on this relatively new industry is scarce. To ensure a high value of the results, a multi-faceted mixed-method approach will be used, consisting of quantitative surveys as well qualitative interviews, and combining explanatory and exploratory research.

List of Abbreviations

DLC	Downloadable Content
P2P	Pay-to-Play
GaaS	Games as a Service
CS:GO	Counter-Strike: Global Offense
MMOG	Massive Multiplayer Online Game
MMORPG	Massive Multiplayer Online Role-Playing Games
F2P	Free-to-Play
JRPG	Japanese Role-Playing Game
NPC	Non-Player Characters

List of Figures

Figure 1: eBusiness & eCommerce (Meier und Stormer 2008)	11
Figure 2: Boxplot for the Age of the League of Legends Survey Participants	63
Figure 3: Boxplot for the Age of the Guild Wars 2 Survey Participants	64

Table of Contents

AcknowledgementsI				
Abs	stract			
List	of Ab	breviationsIII		
List	of Fig	gures IV		
Tab	le of	Contents V		
1	Intro	duction1		
2	Virtu	al Items3		
2	.1	Decorative and Practical Items4		
3	Virtu	al Consumption5		
3	.1	Virtual Consumption - Literature Review7		
4	Micr	Microtransactions9		
5	eBu	siness Models10		
6	Cas	e Example: Counter-Strike: Global Offense18		
7	Met	nodology23		
7	.1	The Mixed Method Research Methodology24		
7	.2	Methodological Literature Review26		
8	The	Quantitative Surveys		
9	The	Quantitative Analysis		
9	.3.	Summary of the first Survey		
10	The	Qualitative Inquiry		
11	The	Interview Analysis41		
1	1.1	Social Hierarchies and Interaction41		
1	1.2	Player Interaction, Recognition and Feedback43		
1	1.3	Self-Expression and Ideals45		
1	1.4	Feelings of Immersion49		
1	1.5	Extrinsic Influences51		
1	1.6	Intrinsic / Individual Factors54		
1	1.7	Summary + Discussion		
12	Qua	ntitative Analysis62		
1	2.2. 8	Summary of Results of the League of Legends Survey		
1	2.3.	Summary of Results of the Guild Wars 2 Survey		
1	2.4.	Testing Hypothesis 1 – The Comparison of the Survey Results68		
12.5. Testing Hypothesis 2 - The Influence of Gender in the League		Testing Hypothesis 2 - The Influence of Gender in the League of		
Legends Survey7				
1 S	12.6. Testing Hypothesis 2 - The Influence of Gender in the Guild Wars 2 Survey 73			

12.7. Surve	Testing Hypothesis 3 - The Influence of Age in the Lea y 75	ague of Legends	
12.8.	Testing Hypothesis 3 - The Influence of Age in the Gu 78	ild Wars 2 Survey	
12.9.	Summary	81	
13. Cor	nclusion	81	
14. Bibliography			
14.1 Ir	nternet Sources	91	
A1 Appe	ndix	XCVII	
B1 Ana	Ilysis of factors from previous literature	XCVIII	
C1. Des	ign of Questionnaire 1	CIII	
C2. Anal	ysis of Questionnaire 1	CVII	
D1. Que	estionnaire 2	CXXI	
E1. Data	for Quantitative Survey 2	CXXIII	

1 Introduction

During the 2019 League of Legends World Championship, a unique partnership between the French fashion label Louis Vuitton and the games developing company Riot Games, was announced. This collaboration featured virtual and reallife components. The real-life component being a Louis Vuitton style trophy case. But more interestingly, regarding this thesis, the artistic director for women's collections, Nicolas Ghesquière, also designed a set of virtual clothes for one of the League of Legends characters called Qiyana¹. This seemingly uncommon collaboration between a high-end, expensive fashion brand and a free-to-play online game, ultimately gave the inspiration for the topic of this thesis. Although it would be interesting to know the decision-making process, success rate and more for this collaboration, a deeper understanding cannot be achieved without first of all understanding the basic motivations and underlying processes for gamers to purchase virtual items in online games in general. As became apparent during the initial research phase, using purely decorative items as a revenue stream for gaming companies is a relatively novel development, although simultaneously already being a big and lucrative industry. Decorative items are defined as items that serve no other purpose than the modification of audio-visual gaming elements, without containing any game-play advantages. Buying an increased magazine for a weapon is considered a functional purchase for example, whereas paying money to only change the colour of the weapon is considered a decorative purchase. Generally, only limited amounts of exploratory research are publicly accessible about the factors that influence gamers when buying decorative or functional items. At the same time, no literature was available regarding purely decorative items. Through conversations with people involved in the industry, on the side of players, as well as professionals, it became apparent that gaming companies conduct their own research, which is usually not made available to the public. Thus, the goal of this thesis is to lay the groundwork in understanding the decision-making process of gamers when purchasing decorative items for games.

One central aspect of management nowadays is to collect and constantly update information about a company's supply chain, value creation and customer relationship. A supply chain that takes into consideration all pieces of information is capable of constantly creating new intangible assets ². Thus, to understand how

¹ The Verge - Louis Vuitton is designing new skins for League of Legends

² Daum – Intangible Assets p. 44

skins should be marketed and sold to players, it is inevitable to understand which factors influence gamers decision-making process, as knowing your audience is a key factor to ensure longevity and success for every company. Since the psychology behind human purchasing behaviour is complex and previous literature scarce, in order to produce expedient results, it was decided to exclude mobile games from this research. It is assumed that the inherent game mechanics and target groups for mobile games are different to console and computer games and in turn also change or alter the factors that influence the purchasing decisions of players. To ensure the maximum level of knowledge gain, this thesis consists of multiple consecutive parts and uses a mixed method approach.

Regarding this thesis, in a first step the findings assumed from previous literature, which made no separation between factors that influence the decision-making process for decorative or functional items, had to be adopted regarding strictly decorative elements. To validate these factors, a quantitative survey was conducted with players of different games that have purchased decorative items before. The results of this survey then served as the basis for the following qualitative exploratory interviews. Exploratory research was deemed necessary, as the topic of decorative elements as marketing and monetization strategy is deemed novel in the context of scientific research and the existence of additional factors that were not considered by previous research was assumed. During these interviews, a range of new factors was discovered. Furthermore, during the interviews it became apparent that a separation of gamers in different target groups was necessary, as the opinions of the interview participants showed strong deviations. Although there is a wide range of criteria that allow the separation of players in different user groups, based on the interviews the factors of age, gender and the respective games played, showed to have influence on the replies of the participants of differing degrees. Thus, a second survey was conducted to firstly test the factors adapted from the first quantitative research as well as the factors adapted from the qualitative interviews, and secondly to examine the influence of the previously mentioned factors.

The final goal of this thesis is to reach an understanding of the purchasing process of gamers, which will in turn allow us to understand how decorative elements can be used as marketing and monetization strategy in online games successfully.

2

2 Virtual Items

The sale of virtual items as a revenue model is still a relatively new concept, dating back to the early 2000s³. There are several distinctive types of virtual items available in the different gaming environments. They can take on the form of wearable gear that increases the characters powers, consumable items which enable access to increased abilities or gaming aspects, or they can also be purely cosmetic and are only used to alter the audio-visual representation of the player's avatar or equipment 4.

Nowadays, the sale of three different types of goods dominates the global economy, which are virtual goods, digital goods and physical goods ⁵. Whereas the definition of physical goods is unequivocal, the separation between digital and virtual goods is more intricate, since all virtual goods are also digital in nature. Digital goods are for example music on Spotify, movies on Netflix, podcasts and more, while virtual goods can be equipment, currencies, furniture, and other things that are used in the environment of a specific game ⁶. What separates virtual goods from digital goods is that they are inherently rivalrous, meaning that if one person is using a certain virtual good, others can't use it at the same time, whereas it would be possible to share the digital version of a song with a friend, while still owning the song afterwards ⁷. Additionally, according to Fairfield, virtual goods are also persistent and interconnected. Persistent meaning that the item must not fade after being used and interconnected meaning that other people in the same environment must be affected by or must be able to interact with the virtual item 8.

Virtual items in games can in turn be categorized in two groups, decorative items and practical items. Since the separation between decorative and practical virtual items is an essential part of this thesis it is therefore discussed in more detail in the next chapter.

³ Hanner, Zarnekow – Purchasing behavior in Free-to-Play Games p. 3327

 ⁴ Fields & Brandon – Social Game Design p. 189
 ⁵ Hamari, Keronen - Why do people buy virtual goods: A meta-analysis p. 1

⁶ Hamari, Keronen - Why do people buy virtual goods: A meta-analysis p. 1

⁷ Fairfield – Virtual Property p. 1053 ff.

⁸ Fairfield – Virtual Property p. 1054 f.

2.1 Decorative and Practical Items

The separation of virtual items into those who serve a practical purpose and those who serve an aesthetic purpose is widely accepted, although there might be different terminologies as well as items that fall into both categories 9.

Practical virtual goods or functional virtual goods include all items that implicate functional advantages for the player's ¹⁰. They include unique weapons and powerups that will increase the player's offensive or defensive powers and generally have a positive impact on his gameplay ¹¹¹². Selling functional items is very risky for game developers as it can easily make the game feel unbalanced. Players that spend real money on functional upgrades can become overpowered and lose interest in the game which no longer feels challenging ¹³. At the same time, players that don't spend real money will feel a sense of unfairness and will quickly become demotivated if they have the feeling that in order to be good it is inevitable to spend money ¹⁴. It is also alluded that in a player vs player environment getting killed by another player is an emotional incident. The killed player is likely to want revenge on his killer, which in turn makes it more likely for him to also spend money on a functional item. Although this is objectively the goal of game developers, this will ultimately lead to a toxic atmosphere in which players spend money motivated by negative emotions and in which marginal players are pushed out of the game ¹⁵¹⁶. Additionally, if players feel like the game is designed with the purpose to force them to spend money to have a fun experience, this can also have greatly negative impacts. A famous example here being EA's game Star Wars: Battlefront 2. Although theoretically all items were accessible without spending money, players in reality needed overwhelming amounts of gameplay to unlock these elements without paying additional money (more than 4.500 hours). This kindled an immense backlash from the community, resulting in EA losing more than \$3 billion on the stock market ¹⁷.

⁹ Wu – Nested Network Effects p. 159

¹⁰ Fields – Mobile & Social Game Design p. 191

¹¹ Lin – Cash Trade in Free-to-Play p. 124-125

¹² Flunger – Free-to-Play Business Model p. 2

 ¹³ Fields & Cotton – Mobile & Social Game Design p. 191
 ¹⁴ Fields & Cotton - Mobile & Social Game Design p. 191

¹⁵ Wu – Nested Network Effects p. 159

¹⁶ Fields & Cotton – Mobile & Social Game Design p. 191

¹⁷ Lim – Blood in the Water

Decorative or ornamental elements, also called "skins" ¹⁸, on the other hand have no impact on the gameplay other than changing the aesthetics of elements in the game's environment. They can alter a player's avatar, the used gear, the objects in his possession and even his surroundings in the game world ¹⁹. Decorative items enable players to customize their gaming experiences to a certain degree. As mentioned above, selling items that have functional characteristics to the players in many cases leads to negative impacts on the gaming experience. Selling purely decorative items doesn't directly influence the gameplay and therefore, has fewer negative impacts, although it also carries with it certain, albeit distinctively fewer risks ^{20 21}. Risks that still need to be taken into consideration are for example the seamless integration of the aesthetics into the gaming environment, meaning that the design of items must not contradict the game 's environment or atmosphere ²². Another example is the possibility of icons and designs to upset players through their inherent properties (religious, historical etc.), which is especially important for games that let players design their own skins ²³.

Lastly, there is a group of items that include both functional and decorative characteristics ²⁴. This would for example include items that bring about gameplay advantages through for example refining the inventory management system, implementing a more favourable crosshair or a more lucid mini map, et cetera.

The purchase of virtual items in games is called a microtransaction and will be discussed in chapter 4.

3 Virtual Consumption

Over the last years different researches have published studies around motivating factors for purchasing virtual goods and adapted related consumption theories like the Theory of Planned Behavior, the Theory of Extended Self, the Model of Desire, the Technology Acceptance Model, the Theory of Reasoned Action and more ²⁵.

However, outsiders still often deem spending real money on virtual goods as irrational. Where material goods are useful, tangible, and valuable, virtual goods

¹⁸ Chu et al. – Skins for Sale p. 125

¹⁹ Flunger – Free-to-Play Business Model p. 2

²⁰ Fields & Cotton – Mobile & Social Game Design p. 195

²¹ Wu – Nested Network Effects p. 159

²² Fields & Cotton – Mobile & Social Game Design p. 196

²³ Fields & Cotton – Mobile & Social Game Design p. 195

²⁴ Wu – Nested Network Effects p. 165

²⁵ Guo & Barnes – Virtual Item Purchase Behavior p. 79 f.

are intangible and therefore nugatory, as well as reproducible, and thus worthless. Summarized, spending real money on virtual items is considered irrational by some ²⁶. Historically, games were played mainly by younger people and children, so the incomprehension of virtual consumption was accordingly prevalent with older people and parents ²⁷. With the passing of time, the ever-increasing number of gamers around the world and the increasing number of elderly players, this condemnation of virtual consumption is not as prevalent in modern times anymore ²⁸. Rather than condemning virtual consumption in general, criticism nowadays is aimed towards specific practices like exploitative game design, aggressive revenue strategies and most notably, loot boxes and gambling ²⁹.

The current position of the United Kingdom's Gambling Commission for example defines virtual items in a way that only concedes them a real-world value if they can be exchanged for cash or other items that have an inherent real-world value ³⁰. Gaming companies on the other hand, acknowledge that virtual and material economies share many equal traits. The prime example being the games development company Valve hiring the Greek economist and later Greek Minister of Finance Yanis Varoufakis to work on a shared in-game currency and to analyse the game economies ³¹.

But although virtual consumption is becoming more socially accepted and revenues reached more than \$16,5 billion in the free-to-play market in 2019 alone, there is still an active debate about virtual consumption theories and their practical implementation ³². Additionally, the amount of research conducted on virtual consumption in the online game segment is limited and existing studies are usually based on different consumption theories. Since there is no universal virtual consumption theory and all studies this paper is built upon either partly or completely confirm their respective theories, all confirmed relevant factors that influence the motivation to purchase decorative virtual items will be inherited and tested without this paper adopting its own virtual consumption theory.

Thus, in the next chapter, the consumption theories of each relevant study adapted for this thesis will be examined and briefly depicted in a chronological order, as well as a summary of the study focus and the most important findings of each

²⁶ Lehdonvirta – Virtual Consumption p. 12 ff.

²⁷ Lehdonvirta et al. – Virtual Consumerism p. 1 f.

²⁸ Statista - Number of active video gamers

²⁹ Alha et al. – Professionals' Perspectives p. 2

³⁰ UK Gambling Commission: Virtual currencies 3.8

³¹ Makuch for Gamespot: Valve hires economist

³² Statista - Free-to-play (F2P) games market revenue

paper. Their respective methodologies used will then be further analysed in the methodology chapter.

3.1 Virtual Consumption - Literature Review

In their paper *Game Design on Item-Selling Based Payment Model in Korean Online Games (2007),* Oh and Ryu research virtual item sales inside subscription model based games, as well as item-sale based games on the examples of "Kart Rider" and "Special Forces" from Korea. While doing pioneer research, Oh and Ryu did not base their paper on a specific virtual consumption theory since they focused on game design aspects that can affect purchasing decisions. For example, they analysed the impacts of real-money versus virtual-money trades, distribution methods, and more on the consumer. Importantly, Oh and Ryu also made the distinction between what they call "ornamental" items and "functional" items ³³. Although their findings are not adopted in this thesis, their study is included since it can be considered as the first work that took a closer look at elements that can influence player purchasing behaviour of virtual items in games.

Vili Lehdonvirta (2009) uses a sociological approach to understand consumer purchasing behaviour in his study "*Virtual Item Sales as a Revenue Model: Identifying Attributes that drive Purchase Decisions*". Referencing several established studies and theories about the sociology of consumption (*The Marxist Theory, Veblen's Theory of Leisure Class, Campbell's Spirit of Modern Consumerism, Campbell's I Shop Therefore I Know That I am*" and Featherstone's "Consumer Culture & Postmodernism" ³⁴), Lehdonvirta argues that physical goods can be seen as having three attributes: Functional attributes, emotional attributes and social attributes. Combining these findings with the previous study of Oh and Ryu, he further argues that virtual items can be separated into functional and ornamental items, but ornamental items can in turn be separated through their inherent hedonic or social attributes. Acknowledging that previous research has only made a vague separation of functional versus decorative items, he tries to analyse virtual goods in terms of their functional, emotional and social attributes ³⁵.

In their paper *Virtual Consumerism (2009),* Johnson, Wilska and Lehdonvirta analyse virtual consumption from a sociological perspective. The paper is based

³³ Oh, Ryu – Game Design

³⁴ Lehdonvirta – Virtual Item Sales p. 101 - 103

³⁵ Lehdonvirta – Virtual Item Sales p. 103

on historical sociological consumer research and is aimed towards reaching an inclusive understanding of virtual consumption. The cited sociological literature is based on the literature used in Lehdonvirta's *Virtual Item Sales as a Revenue Model* (2009), but includes a range of additional authors (*like Bourdieu 1984; McCracken 1988; Simmel 1904/1957, Douglas & Isherwood 1978, Baudrillard 1994, 1996 and more*) ³⁶. Several different motivating sociological and psychological factors could be identified. Johnson et al. conclude that the virtual consumption of items is a "real" form of consumption, since virtual items fulfil the same social and aesthetic roles as material items ³⁷.

In their paper Virtual Item Purchase Behavior in Virtual Worlds: An Exploratory Investigation (2009), Guo and Barnes analyse existing literature related to the fields of human behaviour and online purchasing. They use four established theoretical models to understand motivational influences on consumer behaviour (the Theory of Reasoned Action, the Theory of Planned Behavior, the Technology Acceptance Model and the Unified Theory of Acceptance and Use of Technology) that are subsequently paired with a range of newer constructs (Moon, Kim and Teo et al. 's Technology Acceptance Model in the Internet; Dahlberg et al. 's Trust-Enhanced Technology Acceptance Model; Doolin et al.'s Conceptual Model of Online Purchasing Behavior; Hsu, Lu, Mahler and Roger's Critical Mass; Lee et al.'s Trust Model)³⁸. Through focus groups, they identified latent psychological factors and key determinants, as well as contextual factors that influence players' motivations to purchase virtual items in virtual worlds. Contextual factors here relate to game design elements, such as quality of the virtual world, items, resources and the quest system. They identified 12 factors that have significant influence on consumer purchasing decisions in virtual worlds. In the end, they conclude that the data suggests shopping online and shopping in virtual worlds is closely related, whilst not being completely identical. They conclude that the Theory of Planned Behavior and the Technology Acceptance Model can be partly or completely applied to the purchase decision-making process in virtual worlds and develop a preliminary conceptual model on purchasing behaviour in online worlds 39.

In Cleghorn and Griffith's paper Why do gamers buy 'virtual assets'? An insight in to the psychology behind purchase behavior (2015), exploratory empirical research

³⁶ Johnson et al – Virtual Consumerism p. 1064

 $^{^{37}}$ Johnson et al – Virtual Consumerism p. 1072 f.

³⁸ Guo, Barnes – Virtual Item Purchase Behavior p. 79

 $^{^{\}rm 39}$ Guo, Barnes – Virtual Item Purchase Behavior p. 92 f.

is conducted to answer different questions around the purchase of items in virtual worlds, not only in regards to motivating factors but also effects on psychology, social benefits, emotional benefits, self-expression and more. Referring to Manninnen and Kujanpää (2007) who analysed value structures in massive multiplayer online games, and highlighted the crossover between virtual and real economies ⁴⁰, Cleghorn and Griffiths argue that virtual markets and real markets work similarly in the way of demand, fluctuation and desired profits ⁴¹. They identified several psychological motivating factors that influence purchasing decisions in virtual worlds ⁴². Those findings were then compared to findings of previous studies and models (e.g. Nir Eyal's Model of Desire – 2012).

Reviewing these studies, it can be stated that although there is no universal consumption theory, similarities between material consumption and virtual consumption are apparent. All research presented is aimed towards finding social and/or psychological elements that impact consumer purchasing behaviour.

4 Microtransactions

Many sources define microtransactions as part of a business model in which a customer pays a small amount of money to receive some form of virtual good ⁴³ ⁴⁴. Nowadays, this definition seems to be outdated. Although the word microtransaction includes the word "micro", this attribute does not necessarily refer to the size of a singular monetary transaction anymore. There are records of multiple virtual items being sold for more than \$100,000, for example the Crystal Palace Space Station in the game Entropia Universe, which was sold for \$330,000 in 2009 ⁴⁵.

Thus, Erica Neely (2019) uses a simplified yet more suitable definition, by simply defining microtransactions as any kind of transaction in which a user pays money for a virtual item ⁴⁶.

Microtransactions can be categorized based on different characteristics, like the transaction method and the currency used. Regarding the currency, virtual goods are either bought with real money, which is called real-money-trade, or through an

⁴⁰ Manninen, Kujanpää - The Value of Virtual Assets p.21 f.

⁴¹ Cleghorn, Griffiths – Why do Gamers buy Virtual Assets p. 86

⁴² Cleghorn, Griffiths – Why do Gamers buy Virtual Assets p. 99

⁴³ Mike Colagrossi - Microtransactions

⁴⁴ Lexiko - Microtransactions

⁴⁵ Jelle – Most Expensive Virtual Items Sold

⁴⁶ Neely – Come for the Game p. 3

in-game currency, which is called virtual-money-trading. Virtual money can either be earned by playing the game or exchanged for real money⁴⁷. It is possible for games, e.g. Assassin's Creed Odyssey, to include both types of currencies at the same time. The premium currency in Assassin's Creed Odyssey is called Helix Credits and can be used to buy the same items as the currency that can be earned in game ⁴⁸. Other examples for types virtual currencies are coins, diamonds, gold, shards and more.

Lastly, if an item can be directly bought through a shop interface, it is considered a direct trade. If items cannot be directly bought because there is a factor of randomness involved, like with loot boxes, these trades are considered indirect ⁴⁹.

5 eBusiness Models

Investopedia defines a business model as the plan a company has to reach profitability in a certain market with a particular business or product ⁵⁰. Some of the traditional business models are direct sales, franchising, advertising and more ⁵¹. The rise of the internet, starting in 1995, disrupted how markets and companies are set up and how consumers make their purchasing decisions. Nowadays, the internet is host to some of the biggest companies in the world, like Facebook and Google, whose core technologies are uniquely tied to the internet and cannot be transferred into the physical world ⁵². Thus, it was realized that an augmentation of the traditional business models with a range of new and specific eBusiness models was necessary ⁵³.

While traditional business models centre around production as the core element of their added value, the rise of the internet and the technological shift required a permutation to the processing of information and the exchange of digital (and virtual) goods and services as new core elements ⁵⁴. Although there is a wide variety of different revenue models, Laudon and Traver, as well as Meier and Stormer, state that most companies use one of the following strategies: Advertising, subscription, transaction fees, sales or affiliates ⁵⁵.

⁴⁷ Flunger et al. – Free-to-Play business model p. 5

⁴⁸ Ubisoft Support – Helix Credits

⁴⁹ Chu et al. – Skins for Sale p. 125

⁵⁰ Kopp – Business Model

⁵¹ Kopp – Business Model

⁵² Laudon, Traver – eCommerce 2016 p. viii

⁵³ Laudon, Traver – eCommerce 2016 p. viii

⁵⁴ Meier, Stormer – eBusiness & eCommerce p. 2

⁵⁵ Laudon, Traver – eCommerce 2016 p. 58 f.

Figure 1 below shows a schematic of the different revenue models for eBusinesses according to Birkhofer, while separating indirect and direct revenue streams and distinguishing customers and suppliers. There are five different revenue models that are represented in Figure 1.

59



2.8 Ertragsmodelle für elektronische Märkte

Abbildung 2.18: Ertragsmodelle in elektronischen Märkten nach Birkhofer

Figure 1: eBusiness & eCommerce (Meier und Stormer 2008)

5.1. The advertising model

In the gaming context, the advertising model is primarily used in mobile games where around 70% of Android games and 80% of iOS games used it as their main revenue model in 2017 ⁵⁶. In order to generate revenue, these games either implement advertisements into their game or they offer the possibility to watch advertisements for a reward to the customer, while the advertisement partner pays the game company per impression ⁵⁷. Since the first goal of this thesis is to analyse motivating factors for consumer purchasing decisions of decorative elements, the advertisement model can be disregarded since there is no transaction between customer and gaming company. Additionally, mobile games are excluded from the research.

⁵⁶ Statista - Gaming Monetization

⁵⁷ Fields, Brandon – Mobile & Social Game Design p. 81

5.2. The Transactional-fee Model

The transactional-fee model generates revenue through charging a transaction fee to the customer, which could for example be determined by the time of usage, a delivery fee for downloaded content or a service fee ⁵⁸. It could be argued that in recent times, companies include the transactional-fee model as part of a hybrid revenue model strategy. One of the most prevalent examples would be Valve with its digital distribution service Steam, which enables gamers to purchase and play games. Depending on the total revenue generated by a game, Steam takes a share of 20% to 30% from every game sold ⁵⁹. Additionally, Steam also established its own marketplace that allows for the trade of virtual in-game items on a player-to-player basis. For every sale, 10% of the revenue goes to the publisher and 5% remains with steam, while the player gets the remaining 85% ⁶⁰.

As shown in Figure 1, the transactional-fee model is depicted as a direct revenue model on a business-to-customer basis, whereas Steam functions as an indirect platform business on a customer-to-customer basis ⁶¹. However, it is also possible to buy skins for Steam games through external websites. Steam still takes a fixed fee from transactions on external websites, but it could be argued that in this case transactions are done on a business-to-customer basis while still being categorized as indirect revenue stream, which does not match the definition of a transactional-fee business model ⁶². Additionally, there is no other major game development company that uses transactional fees as a revenue source. Thus, the transactional-fee model can be mainly disregarded in the context of this thesis. However, Steam's Counter-Strike: Global Offense revenue model is regarded as one of the most complex and intricate revenue models, so it will be analysed in detail as a case example in a later chapter.

5.3. The Admission Model / Pay-to-Play

After Meier and Stormer (2008), the admission model charges a form of entrance fee for access to a product or service ⁶³. In the gaming sector, this model can be traced back 150 years to the past, when the first slot machines were set up in San

⁵⁸ Meier, Stormer – eBusiness & eCommerce p. 59

⁵⁹ Steam - New Revenue Share Tiers

⁶⁰ Steam Community – How much money on the Steam Marketplace?

⁶¹ Total CS:Go – Skin Trading Sites Comparison

⁶² Brustein & Williams – Virtual Weapons

⁶³ Meier, Stormer – eBusiness & eCommerce p. 59

Francisco. Players had to pay every time they wanted to play, which is why the admission model is commonly referred to as "pay-to-play" model ⁶⁴.

The pay-to-play model underwent some changes due to the advent of gaming consoles and arcades in the early 1970s ⁶⁵. Since it was now relatively easy to own the required hardware, players that did now only had to pay a single time to gain the ownership of a game ⁶⁶. This limited the maximum profit that could be generated with a single game.

Another big change for video games was the rise of home computers like the Commodore 64 or the Apple II in the 1980s. Since their processing power was superior to the previous consoles, they also allowed for more complex games ⁶⁷. In the early years of gaming, it was possible for a handful of game developers to program a whole game without any knowledge in the fields of computer science and physics ⁶⁸. With modern games, this was no longer the case. The game Grand Theft Auto V for example, which is considered the most expensive game developed, was coded by more than 1.000 people spread over several different countries ⁶⁹. Leslie Benzies, President of Rockstar North, said that the level of detail in GTA V is 10 to 15 times higher compared to the previous game GTA IV and thus also required 10 to 15 times more people to work on it ⁷⁰. Estimates for the production cost of the game range from \$137 million to more than \$200 million ⁷¹. These increasing development costs made it necessary to generate more revenue, which led to the concept of "Games as a Service" ⁷².

The basic idea behind this concept was to circumvent the limitation of selling a game to a customer only once. Instead, game developers wanted to build up a lasting relationship that allowed willing players to spend additional money on new extension to the game ⁷³. Nowadays, these extensions are commonly referred to as "Downloadable Content" or DLC for short ⁷⁴. DLCs can contain additional gameplay elements, such as new quests and new areas, but also new practical or decorative elements that can in turn be sold through microtransactions for even

⁶⁴ Vogel - Entertainment Industry Economics p. 388

⁶⁵ Vogel - Entertainment Industry Economics p. 389

⁶⁶ Vogel - Entertainment Industry Economics p. 389

⁶⁷ Riad Chikhani - The History of Gaming

⁶⁸ Aleem et al. – Critical Success Factors p. 927 f.

⁶⁹ MCV – Inside Rockstar North

⁷⁰ MCV – Inside Rockstar North

⁷¹ Business Insider – The most expensive Games

⁷² Cook – Games as a Service

⁷³ Sotamaa, Karppi – Games as Service p. 12

⁷⁴ Wells – What is DLC in gaming?

more revenue in game ⁷⁵. One of the first providers of DLCs was the game development company Cavedogs for the game Total Annihilation in 1997 ⁷⁶. Cavedog used the internet in its early stages as a new distribution channel to publish their additional content to their players.

But the ever-increasing power of home-computing systems combined with the proliferation of the internet did not just open up new distribution channels, but also gave birth to a range of new types of games. For example, multiplayer games that turned into Massive Multiplayer Online Games (MMOGs), in which dozens or even hundreds of players could play with or against each other simultaneously ⁷⁷. These new types of games in return brought with them new challenges, opportunities and hence business models.

5.4. The Subscription Model

The first commercial massive multiplayer online game was published in 1981 and was called Islands of Kesmai. It allowed for up to 100 players to play at the same time and charged gamers an hourly rate of \$12⁷⁸. This compared to today's prices is an extremely high amount, which alludes to one of the challenges multiplayer games had to overcome: Increased costs compared to single-player games. Especially in the early times, it was still expensive to set up, run and maintain servers, while the limited bandwidth only allowed for a relatively small group of gamers to play the game simultaneously ⁷⁹. For the gaming companies, the implementation of a subscription model, usually charged on a weekly or monthly basis, led to regular revenue streams and, if the user was retained for long enough, also a higher total income ^{80 81}.

The subscription model can be paired with an admission model, in which the customer must buy the game as well as pay a subscription fee. One famous practical example for this hybrid revenue model was World of Warcraft, which was originally sold for \$49,99 when it was released in 2004 and charged a monthly subscription fee of \$14,99, with the first month of online play being free ⁸². World of Warcraft reached its peak in October 2010 with 12 million subscribers that

⁷⁵ Wells – What is DLC in gaming?

⁷⁶ Cavedog – Downloadable Content

⁷⁷ Fields, Brandon – Mobile & Social Game Design p. 22

⁷⁸ Bartle – MMOs From the Inside Out

⁷⁹ Fields, Brandon – Mobile & Social Game Design p.22

⁸⁰ Fields, Brandon – Mobile & Social Game Design p.22

⁸¹ Fields, Brandon – Mobile & Social Game Design p.155 f.

⁸² Gamesindustry – Blizzard Entertainment

generated \$180 million in revenue per month ⁸³. Where admission model games only needed to sell their game once, for subscription-based games, user retention became a new and crucial metric that was just as important as the acquisition of new users 84.

Although Business Insider placed World of Warcraft as the fourth top-grossing video game franchise of all time in 2015⁸⁵, the subscription revenue model also faces some limitations. One of them being the fixed maximum amount of money you can generate from each user, although there are usually players who would spend more money on the game if given the opportunity ⁸⁶. While often overlooked in financial reports, these non-perceived potential profits have a negative impact on the overall goal of profit maximization ⁸⁷. Nowadays, there is also debate about the so-called "Subscription Fatigue". Researchers suggest that evidence shows a trend of a rising fatigue of consumers to sign up for an additional subscription service, simply because they are already signed up to several others ⁸⁸.

One way to maximize possible profits is to implement the option for microtransactions in the game.

5.5. Price-Model for Products = The Microtransaction-Model

As was explained previously, buying items in-game is called a microtransaction. They can be decorative or functional in nature, meaning players can change their looks or increase their powers by spending money. Due to the competitive nature of most multiplayer games, the latter can lead to negative player reactions ⁸⁹. But even purely decorative items can cause resentment because gamers feel that the game has already received sufficient funds through admission and subscription revenues ⁹⁰.

The price-model for products and services consists of a dynamic pricing model that forgoes fixed prices, but rather lets the market set the prices freely on basis of demand and supply. One of the most common forms of trade in the price-model for products is the auction ⁹¹. The price-model for products found its implementation

⁸³ Businesswire – World of Warcraft

⁸⁴ Riensche, Cowell – Commerce Models p. 725 f.

⁸⁵ Matt Weinberger – Top grossing video games

⁸⁶ Fields, Brandon – Mobile & Social Game Design p.156

⁸⁷ Will Kenton – Opportunity Cost

⁸⁸ Gilsenan - Entertainment Subscription Fatigue

 ⁸⁹ Riensche, Cowell – Commerce Models p. 726
 ⁹⁰ Riensche, Cowell – Commerce Models p. 726

⁹¹ Meier, Stormer – eBusiness & eCommerce p. 56

in the online games world through the microtransaction-model, which in turn is often used in so called "free-to-play" (F2P) games.

Free-to-play refers to the game itself being complementary to download and play without restrictions, while incentivizing the player to spend money on virtual goods through microtransactions that improve the gameplay experience for the player ⁹². The free-to-play model can be further separated in purely free-to-play and pay-to-win (P2W). Free-to-play games only offer decorative items with no influence on the gameplay. Pay-to-win games on the other hand allow players to purchase functional items which bring about competitive advantages, which is why they are called pay-to-win ⁹³. Over the last years, the pay-to-win business model has declined in popularity as the practice of spending money for gameplay advantages is widely considered unfair or cheating ⁹⁴.

5.5.1. History of the Free-to-Play Business Model

The free-to-play model was first implemented in Asia due to socio-economic reasons and quickly conquered the worldwide digital gaming market, also propelled by the previously mentioned limitations of earlier revenue models ⁹⁵. One of the biggest challenges for online games in the Asian-Pacific region was that a majority of the games were pirated and thus generated no revenue for the gaming companies, if they strictly used the admission revenue model. This excessive piracy accrued mainly because players in Asia were poor and often couldn't afford their own computer and thus eluded to Internet Cafés ⁹⁶. The subscription model combined with a free-to-play approach helped to partly overcome this issue, since it was impossible to play the games online without an active subscription ⁹⁷.

But since many players could not afford the relatively expensive subscriptions, the free-to-play model advanced mainly for the reason of price segmentation. By offering items with prices that proliferated over a wide range, it was possible to generate the maximum revenue each individual player was willing to pay ⁹⁸. Since testing the game was free, free-to-play games attracted a big user-base from all social backgrounds, which in turn sparked positive network effects ⁹⁹.

⁹² Davidovici-Nora – Innovation in Business Models p. 22

⁹³ Flunger et al. – Free-to-Play Business Model p. 3

⁹⁴ Alha et al. - Free-to-Play Games p. 4

⁹⁵ Davidovici-Nora – Innovation in Business Models p. 26

⁹⁶ Davidovici-Nora – Innovation in Business Models p. 23

 ⁹⁷ Fields, Brandon – Mobile & Social Game Design p. 23
 ⁹⁸ Flunger et al. – Free-to-Play Business Model p. 2

⁹⁹ Alha et al. – Free-to-Play Games p. 2 f.

The profitability of a free-to-play game is set by the total amount of players in the game, the number of players that get converted into paying users and the average amount each player spends ¹⁰⁰.

The free-to-play model nowadays exceeds all other business models in terms of generated revenue. Including mobile games, \$87,1 billion in revenue were generated through the F2P business model out of a total market worth of \$109,4 billion for digital games, which translate to a revenue market share of around 80% ¹⁰¹.

The free-to-play business model is an example of the focus shift from the times of industrial capitalism to modern times. Whereas in the times of industrial capitalism the supply chain was centred around and controlled by the manufacturer, it is nowadays centred around the customer. To survive, companies must be able to adapt their products to the individual needs of the customers ¹⁰².

5.6. eBusiness Model Hybrids

In the following part, sub-categories and hybrid eBusiness models of the previous cases will be briefly introduced to guarantee an unmitigated understanding of the relevant topic.

Freemium: Generally, a freemium game is free to download and play up to a certain point, at which in-game restrictions will limit the games playability. There is a discussion about whether freemium games must include microtransactions or not (see Davidovici-Nora 2019, Neely 2019, Fields & Brandon 2012). Davidovici-Nora defines freemium games as pay-to-play games with a demo period ¹⁰³, whereas Neely and Fields & Brandon also include free-to-play games that force players to buy compulsory in-game items through microtransactions to further progress in-game ¹⁰⁴. The difference between a free-to-play game and a freemium game is thus seemingly, that the latter makes the purchase of in-game items inevitable, whereas free-to-play games make the purchase optional.

¹⁰⁰ Davidovici-Nora – Innovation in Business Models p. 31 ff.

¹⁰¹ Superdata Research 2019

¹⁰² Daum – Intangible Assets p. 44

¹⁰³ Davidovici-Nora – Innovation in Business Models p. 23

¹⁰⁴ Neely – Come for the Game p. 3

Shareware: Shareware is similar to the freemium model, but instead of offering a limited version of the game like a demo, the full, uncopyrighted software is offered on a limited time trial basis ¹⁰⁵.

Freeware: Unlike Shareware, freeware is free for an unlimited time but with limited content. Additionally, the software is copyrighted ¹⁰⁶.

A **Battle Pass** rewards gamers through a range of additional content like item drops, skins, missions, maps and more for progressing in game and completing different challenges. The battle pass is often seen as the preferable alternative to microtransactions, as it remunerates players based on progress and not financial power. Simultaneously, rewards from the battle pass are clear, as there is no gambling involved ¹⁰⁷. The battle pass is usually considered to be part of the microtransaction business model, with Fortnite being its most prominent operator. In Fortnite, the battle pass runs on a subscription basis though, where players must pay around \$9,50 every quarter ¹⁰⁸, although there were also options to earn the Battle Pass for free through extensive gameplay in 2019 ¹⁰⁹. Additionally, it could be argued that a battle pass is incidental with offering games as a service and hence also part of the admission-fee model.

6 Case Example: Counter-Strike: Global Offense

In the following part of the paper, the revenue model of Counter-Strike: Global Offense (CS:GO) will be examined in detail. The goal of this case example is on one hand to reveal the similarities between the real-world economy and the virtual economy, and on the other hand to ensure that the reader has an extensive understanding of how complex eBusiness models can be.

The CS:GO revenue system can be seen as one of the most advanced revenue models in the online games segment, as it even allows for the trade of skins on external websites, that use different methods of gambling practices to increase the total skin-market turnover. In addition to using CS:GO as a prime example for understanding the conglomerate of modern game revenue strategies, this case study will also briefly showcase one of the biggest criticisms about the free-to-play microtransaction model, which is the gambling aspect.

¹⁰⁵ Jackson, Halkias – The truth behind Shareware

¹⁰⁶ Davidovici-Nora – Innovation in Business Models p. 23

¹⁰⁷ Lim – Blood in the Water

¹⁰⁸ Investopedia - How Does Fortnite Make Money?

¹⁰⁹ Brian - Get the next Battle Pass for free

Counter-Strike: Global Offense is a multiplayer first-person shooter that uses the free-to-play business model, meaning it can be downloaded and played free of charge without any restrictions. It was developed by Valve and Hidden Path Entertainment and is hence part of the Steam network ¹¹⁰. It is possible to buy a prime status for 13,25€, but it's also available for free once a player reaches level 21, which is said to take around 100 – 200 hours ¹¹¹. The prime status unlocks a range of additional skins and cases and will pair prime users in matchmaking ¹¹². From November 18th, 2019 until March 31st, 2020 a battle pass called Operation Shattered Web was available for the price of 13,25€ ¹¹³. The battle pass included a range of new player and weapon skins, sprays, tags, missions, and maps ¹¹⁴.

The game uses a real-money microtransaction revenue model through the sale of a variety of mainly cosmetic upgrades, such as weapon and player skins, gloves, pins, music-kits, sprays, patches and gloves that are sold on a player-to-player basis through a curated stock-like exchange market called the Steam Marketplace ¹¹⁵. Additionally, a small range of semi-functional items can be bought directly from Steam through the Steam Shop, which are accessible in-game.

6.1. Obtaining Skins

There are different ways players can obtain skins. The game uses a level-1 to level-40 weekly ranking system that gets reset every Wednesday. Whenever a player reaches level 2, they either get a weapon skin or a spray (a spray is a graffiti-like image that can be emitted on walls and is limited to 50 uses) ¹¹⁶. This is the only way a player can get a free skin inside the game. The standard way of getting skins in the game is through so-called crates. A player can earn a maximum of 2 crates per week simply by playing the game ¹¹⁷.

There are different types of crates that are categorized based on their content, such as weapon crates, tool crates, explosive crates and more ¹¹⁸. Although crates are free, the player needs a fitting key to open the crate in order to get a randomized share of the content. Keys can be directly bought through the Steam

¹¹⁰ Counter-Strike: Global Offensive

¹¹¹ Steam Community - How long does it take to get to Level 21?

¹¹² Steam Store – CS:GO Prime Status Upgrade

¹¹³ Steam Support - CS:GO - Operation Shattered Web

¹¹⁴ Counter-Strike – Operation Shattered Web

¹¹⁵ https://skinbaron.de/

¹¹⁶ Villanueva for Dotesports - A simplified explanation of CS:GO ranks

 ¹¹⁷ Counter-Strike Wiki - Skins
 ¹¹⁸ Counter-Strike Wiki – Supply Crate

Shop and cost 2,30€. After using a key, a random selection of items is disbursed from the crate's content, based on the item's individual rarity.

Additionally to keys, the Steam Shop offers a very limited selection of semifunctional items, like nametags, experience-boosts or increased inventory space, but no skins. The skin trade on a player-to-player basis is curated through the Steam Marketplace, on which Steam takes a piece of the revenue from each sale ¹¹⁹. The transaction fee is set at 5%, but for CS:GO, and a range of other games, Steam takes a higher fee of 10%. On the Steam Marketplace, there is a maximum price cap for a single listing that is currently set at \$1,800¹²⁰.

Another way to buy skins is through a variety of external websites that are officially not associated with Valve but allow the login through the Steam account and can, therefore, be seen as part of the direct game environment ¹²¹. Officially, Steam has denounced all cooperations with any third-party website and declared in 2016 that they will be requesting third party websites to cease all operations, but there are still many external websites online to this day (June 2020) ¹²². These external websites can be categorized in two groups. Firstly, the supply of skins and secondly gambling.

The maximum price cap on the Steam Marketplace is one of the reasons why external marketplaces that, for example, don't have such a maximum price cap gained popularity, as the price of items can vastly exceed the limit of \$1,800. Currently, the most expensive decorative item sold in CS:GO is the Souvenir AWP Dragon Lore skin, which was sold for more than \$60,000 in 2018¹²³.

Skin-trading websites can work with different methods, from selling self-composed crates that can cost several hundred Euros ¹²⁴, to the direct sale of skins ¹²⁵ and even skin-rentals on weekly or monthly basis ¹²⁶.

6.2. Item Prices

The item price consists of a variety of different factors: Rarity, exterior quality or float, pattern, used stickers, if it is a souvenir and if it has stat-tracking. By examining how complex the composition of item prices in the CS:GO environment

¹¹⁹ Steam Support – Community Market FAQ.

¹²⁰ Steam Support – Community Market FAQ

¹²¹ Total CS:GO - Skin Trading Sites Comparison

¹²² Steam – In-Game Item Trading Update

¹²³ Villanueva for Dot eSports - Souvenir AWP Dragon Lore skin

¹²⁴ https://hellcase.com/

¹²⁵ https://skinbaron.de/

¹²⁶ https://app.lootbear.com/

are, similarities between the real-world economy and virtual world economy become apparent.

There are eight different rarity levels of skins that are perceptible through colour coding, with white being the most common and gold being the rarest. Additionally, every skin has a so-called "float" or wear value between 0 and 1 that determines how scratched or worn the skin looks. Depending on the value there are five levels of the exterior quality that range from factory new to battle scarred ¹²⁷. The exterior quality has an influence on the visual depiction of the item, and thus its price, but does not deteriorate over time ¹²⁸. Stickers can be put on weapons and since they also have their own value based on rarity, they too influence the price of the weapon they are on. StatTrak is an add-on that can be part of a weapon and it depicts the number of player-kills the owner of the weapon has gotten with that weapon

A skin can also be categorized as a souvenir, which means it was given out as part of an official major tournament hosted by Valve. Players who watch at least 1 round of a major tournament on the streaming website Twitch or through CS:GO have the chance of winning a souvenir item randomly ¹³⁰.

The price of a range of items can also vary depending on the exact composition of a skin's pattern, the skin's positioning on the weapon and the colour patterns, which are randomized. Some elements of a pattern, for example a heart shaped element, are more favoured and thus, if the pattern depicts it in a blatant position, the skin's value is raised. Based on the player's first-person view of the avatar (only the right hand plus weapon are visible) a weapon has a frontside, which is constantly in the field of view of the player, and a backside, which is always facing away from the player. Consequently, if the favoured pattern is depicted on the backside of the weapon this will decrease its value ¹³¹.

Ultimately, the price for the same weapon skin can differ greatly. For example, the StatTrak AK-47 with a factory new exterior quality and pattern number 321 is worth around \$10,500, while the minimal wear (worse than factory new) StatTrak AK-47 with pattern 661 is worth more than \$32,000, and the AK-47 with a well-worn exterior quality and pattern 256 is only worth \$7^{132 133}. At this point, there are more

¹²⁷ Skinwallet – Guide to CS:GO Skins

¹²⁸ Tobys CS - CS:GO Item Quality Guide

¹²⁹ Counter-Strike Wiki: StatTrak

¹³⁰ Counter-Strike Wiki: Souvenir

¹³¹ SteamCommunity: Knife Patterns

¹³² Tchuriki Broskins: Pattern Rank on AK-47

¹³³ TeaWithMilkAndSugar - Why are CS:GO Skins Priced So Differently?

than 16 Steam accounts with virtual items that exceed the worth of \$100,000, with one of them even topping a quarter of a million dollar ¹³⁴.

6.3. Gambling

Although Steam uses real money, players are not allowed to withdraw any money they have in their accounts. This rule might seem unfair at first, but coming back to the example of the United Kingdom's Gambling Commission mentioned in the Virtual Consumption chapter, by not allowing players to withdraw their money, all CS:GO items are considered items without value and in turn make all types of gambling with and around those items legal ¹³⁵. The German State Parliament of Brandenburg also stated in 2017 that the content of loot boxes is immaterial and thus doesn't fall under gambling laws, although being considered a dimetric good ¹³⁶.

The United Kingdom's Gambling Commission further acknowledges that some games offer the option to turn virtual items into real money, which would in turn make gambling with them illegal, also under German law ¹³⁷. In reality, some external CS:GO skin-trading websites (e.g. Skinbaron.de) allow the players to withdraw their money via PayPal, Bitcoin and other methods, which in turn means that any skin on any website can be cashed out, since they can be transferred between the websites ¹³⁸. Government officials see Valve in the responsibility to act against those types of websites, but although this statement was made in 2016, to this day, there are still a vast variety of gambling options available on external websites ¹³⁹.

As previously mentioned, the definitions of gambling can differ from country to country, with countries like Belgium banning the sale of loot boxes as gambling in April 2018. The official press release of the Dutch Ministry of Justice explicitly names Counter-Strike: Global Offense as one of four guilty objects of study ¹⁴⁰.

There are two different types of gambling associated with Counter-Strike, disregarding the gambling aspects of loot boxes themselves. Firstly, there is a range of websites that use casino games like Roulette or even a simple coin-toss ¹⁴¹. But instead of using of real currencies, they allow the player to gamble with

¹³⁴ CS:GO Exchange - Leaderboard

¹³⁵ UK Gambling Commission – Loot Boxes

¹³⁶ Landtag Brandenburg - Glücksspielelemente in Computerspielen (In German)

¹³⁷ Kleinman for BBC - Loot Boxes not gambling in UK

¹³⁸ Skinwallet – Guide to CS:GO Skins

¹³⁹ UK Gambling Commission – eCurrencies 3.7

¹⁴⁰ Koen Geens Dutch Justice Department - Loot Boxen (in dutch)

¹⁴¹ CS:GO Web – CSGO Gambling Sites

skins, while enabling players to cash out their winnings either directly on the website or through other external websites like Skinbaron.de. Secondly, there are websites for eSport match-betting, for example for Counter-Strike, League of Legends, or Dota 2. They work like most other types of sport-betting websites, using predetermined odds ¹⁴². When placing a bet, the skins are transferred to a Steam account managed by the betting website and after winning, those skins, plus a share of skins other people lost, get transferred back to the winning players accounts¹⁴³.

6.4. Summary

Summarized, Counter-Strike: Global Offense uses the price model for products through the free-to-play business model paired with decorative microtransactions. Additionally, it is possible to pay for prime status.

The Steam Shop offers a range of semi-functional items on a business-to-player basis. The Steam Marketplace uses a stock-exchange-like-interface for player-toplayer sales, taking a fixed fee of all transactions. Item prices are based on demand and supply and a range of item-specific factors.

Additionally to being used to alter a player's avatar, skins are also used as currency on online gambling websites. If skins cannot be traded back for cash, they are considered immaterial goods in many countries. In reality, skins can easily be traded back for cash, which would make all forms of gambling with them illegal. Yet, the skin gambling market is still flourishing with an estimated \$5 billion in skins being wagered in 2016¹⁴⁴.

Methodology 7

The mixed method research methodology was chosen for this thesis, which combines quantitative data with qualitative research. The goal of this thesis is to identify factors that influence consumer purchasing behaviour of decorative virtual items in online games. As stated before, previous literature is relatively scarce and no research has been done exclusively regarding decorative items, as functional items were always included in all studies. Factors found by previous research can be adapted for this thesis, with the exclusion of motivators focused on purely

 ¹⁴² https://csgo500.com/matchbetting
 ¹⁴³ Kollar - Counter-Strike's Gambling Scene

¹⁴⁴ Statista – Estimated amount wagered on CS:GO skins worldwide

functional attributes. Based on the limited generalizability of previous results, which are explained in detail in the literature review in the methodology part, further quantitative testing is needed. Thus, in the first step of this inquiry, a quantitative survey will be conducted with gamers.

In the second step, qualitative methods will be used to generate an in-depth understanding of consumer purchasing decisions for virtual items. And as gamer's purchasing decisions are based on complex multifaceted deliberations and feelings, it is assumed that additional factors only related to the purchase of decorative elements might emerge through the interviews, which were not considered in previous research. The findings from the first quantitative survey and the qualitative interviews will be combined and lastly tested through a second quantitative survey.

7.1 The Mixed Method Research Methodology

The mixed method research methodology is sometimes also referred to as methodological triangulation, blended research, integrative research, mixed research and more ¹⁴⁵. In his article "*Toward a definition of Mixed Methods Research*" R. Burke Johnson combined 19 definitions by different leaders in the fields of mixed method research to come up with the following definition:

"Mixed methods research is the type of research in which a researcher […] combines elements of qualitative and quantitative research approaches […] for the broad purposes of breadth and depth of understanding and corroboration." ¹⁴⁶

To gain a comprehensive understanding of this definition, it is worth looking at the early mentions of the mixing of qualitative and quantitative methods. In his article "*Unobtrusive Measures: An Inventory of Uses*" from 1976, Thomas J. Bourchard examines different research methods in the field of sociology and comes to the conclusion that there are no perfect methods and that each method has its weaknesses and should, therefore, be supplemented with a different method. If the same results are gained using two different methods with different weaknesses, it in turn greatly increases the validity of those findings ¹⁴⁷. Subsequently, when the same results are gained using the same method, but a different sample, for

¹⁴⁵ Johnson – Toward a Definition of Mixed Method Research p. 118

¹⁴⁶ Johnson - Toward a Definition of Mixed Method Research p. 123

¹⁴⁷ Bouchard Jr. – Unobtrusive Measures p. 267 f. / p. 291

instance, this will simply lead to correlated errors rather than increase the validity of findings ¹⁴⁸. Furthermore, the mixed method methodology can also lead to a more "holistic, and contextual portrayal" 149 and thus, increases the level of understanding regarding a specific topic ¹⁵⁰.

The process itself can be categorized by different characteristics, like the simultaneous and the sequential triangulation. With the simultaneous approach, qualitative and quantitative methods are used simultaneously. During the collection stage of the data the two methodologies only have a limited amount of interaction, but during the interpretation stage the results of both inquiries supplement each other. With the sequential approach, the results of the first inquiry are used as basis for the following inquiry ¹⁵¹. Additionally, based on the emphasis of the different methods used, the mixed method research can also be categorized in qualitative dominant, quantitative dominant and equal status research ¹⁵².

Regarding this thesis, the sequential triangulation was chosen with an equal emphasis on qualitative and quantitative research. Originally, it was planned to only do one quantitative survey, to test the generalizability of factors found by previous researchers, since quantitative research can generate data that shows "trends, attitudes, and opinions of a population" ¹⁵³. These results then serve as a basis for further qualitative research, with the aim to reach an in-depth understanding of the decision-making process of gamers. Judging by the data received through the two methods, it became apparent that due to the nature of the survey, the validity of the results was limited, as the statements were seemingly heavily influenced by the respective games played by the participants, which became especially obvious during the qualitative research. This led to a pivot in the specific research approach. While the quantitative survey still functions as the basis for the qualitative interviews, it was deemed necessary to conduct additional research following the interviews, to reach a higher level of validity for the factors gained through these interviews. Thus, a second questionnaire was developed, and a second survey was conducted. While the first questionnaire was given out to players of different games, the second survey was split up in two parts that were both focused on gamers of one specific game each, with a guestionnaire that was based on the statements received in the interviews as well as the results from the

¹⁴⁸ Andrews - Construct Validity and Error Components p. 412

 ¹⁴⁹ Jick – Triangulation in Action p. 603
 ¹⁵⁰ Jick – Triangulation in Action p. 604

¹⁵¹ Morse – Approaches to Qualitative-Quantitative Methodological Triangulation p. 120

¹⁵² Johnson - Toward a Definition of Mixed Method Research p. 123 f.

¹⁵³ John & David Creswell – Research Design p. 207

first survey. This was done to test the influence the game has on the decisionmaking process of gamers. Due to the limited space, it was not possible to include the design and results of both surveys in the thesis. Since the results of the second survey are deemed more valuable and valid, the design and analysis of the first questionnaire was moved to appendix C1, with the exception of the summary of the results from the first questionnaire, which will be displayed before the qualitative in-depth interviews.

7.2 Methodological Literature Review

While the previous literature review focused on examining the different consumption theories used by researchers, this literature review will focus on the different methodologies used in the studies adapted for this thesis. The factors adapted from the literature can be found in appendix B1.

The amount of relevant studies about factors influencing consumer purchasing decisions for virtual items is limited and has not differentiated between motivating factors for purely decorative items and functional items. Additionally, most research focused on trying to build a holistic synopsis of influencing factors, meaning that all factors that influence consumer purchasing behaviour were examined. This includes gameplay and game design elements as well as factors related to the different business models. As the space for the thesis is limited, factors related to gameplay, game design and business models will not be further examined. This thesis will only focus on psychological, social, and individual factors in regard to decorative elements. The validity and transferability of the results needs to be guaranteed by examining the different research methodologies used.

"Virtual Item Sales as a Revenue Model: Identifying Attributes that drive Purchase Decisions" is a goods-centred ¹⁵⁴ exploratory study based on the analysis of a range of massive multiplayer online role-playing games (MMORPGs) through information-oriented sampling by Vili Lehdonvirta. The information-oriented method can yield in-depth information but does not allow for statistical generalizations. Follow-up studies can use the findings as a basis for further studies ¹⁵⁵. The findings were extracted on the basis of first-hand user experiences, interviews with developers and professionals (2), informal discussions and previous literature. The data was collected between 2005 and 2007, but for the

¹⁵⁴ Lehdonvirta - Virtual Item Sales p. 112

¹⁵⁵ Lehdonvirta - Virtual Item Sales p. 103 f.

most part, not exclusively for the paper. The results are structured into functional, hedonic, and social attributes, while the functional attributes can be disregarded in the context of this Thesis ¹⁵⁶. The study generated two functional attributes, six hedonic attributes and one social attribute that influence consumer purchasing behaviour.

In "Virtual Consumerism" Johnson et al. use the case-study method to extrapolate findings from the Finnish game Habbo Hotel. Habbo Hotel is a previously popular massive multiplayer online game that at its peak had around 9,5 million active users per month with 90% of players being between 12 and 18 years of age ¹⁵⁷. The game was chosen due to its maturity (published in 2000), the possibility of real-money trades and its focus on virtual commodity consumption. The data used was gathered between 2004 and 2007 and consists of 12 interviews, the examination of 24 fan sites and first-hand use experiences ¹⁵⁸. The purpose of the study was to clarify purchasing motivations and the social dynamics that influence the virtual consumption for Habbo Hotel users ¹⁵⁹. Johnson et al. came up with six different sociological factors that influence consumer purchasing behaviour which were adopted for the quantitative survey. The limitations of this study are a lack of evaluation (ranking) of the different factors and a lack of generalizability.

In "Virtual Item Purchase Behaviour in Virtual Worlds: An Exploratory Investigation", four focus groups with 24 participants that play a range of free and paid MMORPGs were interviewed in a semi-structured format to collect information on variables that influence consumer purchasing decisions. For the interviews, Guo and Barnes divided the purchasing process into three stages: Motivation, behavioural intention, and purchase behaviour. Due to the unrepresentative samples, their findings don't allow for a generalization, but can be used as basis for subsequent research ¹⁶⁰. The study yielded 17 factors that influence players purchasing behaviour without further categorization, including factors based on game design elements, as well as factors based on functional items ¹⁶¹. Thus, only a selection of their findings will be adopted for this thesis.

In "Why do Gamers buy 'Virtual Assets'? An Insight in to the Psychology behind Purchase Behaviour," Cleghorn and Griffiths use the Interpretative phenomenological analysis method interviewing six gamers that regularly bought

¹⁵⁶ Lehdonvirta - Virtual Item Sales p. 104

¹⁵⁷ Sulake Achive – Habbo Hotel
¹⁵⁸ Johnson et al. – Virtual Consumption p. 1065 f.
¹⁵⁹ Johnson et al. – Virtual Consumption p. 1072 f.
¹⁶⁰ Guo & Barnes – Virtual Item Purchase Behavior p. 80 f.

¹⁶¹ Guo & Barnes – Virtual Item Purchase Behavior p. 86 f.

virtual items. The study resulted in seven superordinate themes: Motivation for purchases, social aspects, emotional attachment to the avatar, psychological rewards and impacts, self-expression, stock-market gaming, and impulse buying versus research ¹⁶². These seven themes consist of two to seven subcategories each. Not all these subcategories are self-explanatory, with some of them having negative impacts on driving consumer purchasing behaviours. One example is "self-torment," which is named as a subordinate theme regarding the superordinate theme of psychological rewards and impacts ¹⁶³. After consulting the text, it becomes apparent that it's a lack of self-torment which can drive consumer purchasing behaviours and decisions. In addition to not being self-explanatory, the themes relate to decorative elements, as well as functional items. Thus, after elaborating the precise meaning of all factors, only a selection was adopted for the quantitative survey. Since the study was qualitative and based on a very limited number of interviews, further quantitative testing is again needed to ensure the generalizability of the results.

8 The Quantitative Surveys

The first quantitative study is based on the findings of previous literature, which was mainly conducted qualitatively. Since previous research made no separation between functional and decorative items, the first quantitative survey will be used to test the adapted factors that influence purchasing behaviours in online games for purely decorative items. Not only will this survey allow the validation or rejection of those factors, but also a ranking of how important players think each of those factors is. The results of this survey will then be used as a basis for further qualitative research, which in turn is then used for a second qualitative survey. The second survey will feature questions generated through the combined results of the first quantitative research and the qualitative research. Additionally, it will be used to validate or reject three inductively generated hypotheses. As such, the influence of the game's genre, the influence of the age of the participants and the influence of gender will be analysed. In order to test the influence a game has on the results, the survey will be split up in two separate parts that will be given to players of two different games. The selection of games is based on the statements given by the participants of the qualitative interviews. Game number one is a

¹⁶² Cleghorn & Griffiths – Why do Gamers buy p. 85 / p.89

¹⁶³ Cleghorn & Griffiths – Why do Gamers buy p. 90, table 2

strategy game called League of Legends, the second game is an open world roleplaying game called Guild Wars 2. Thus, in total three different surveys will be conducted with two different questionnaires. Due to the limited space, the design and interpretation of the first survey was moved to appendix C1 and C2. Thus, while there are many similarities between the two questionnaires used, the following parts will focus on the design of the second survey.

8.1. Questionnaire Design

When designing a questionnaire, it is important to pay attention to several factors. The questions should be relevant to the research question, they should be easy to understand with simple syntax and wording that leaves no room from interpretation by the participants, questions should not be suggestive in a way that influences the 164 participant's and should also negatives answer not contain Questions related to the same topic should also be grouped together, as it can help to reduce the mental strain of participants in answering those questions ¹⁶⁵. The questionnaire mainly features closed-ended questions, as its main purpose is not to generate new factors influencing consumer purchasing decisions of decorative items, but to firstly validate and evaluate previous findings and secondly, prove the three inductively generated hypothesis ¹⁶⁶. For the evaluation, Likert-scales are used. With Likert-scales, the researcher must decide on the number of scales as well as their denotation. While there is no set favourable standard for the number of scales, as their understanding is also dependent on the respective mental capabilities of survey participants, it holds true that the longer the scale, the harder it is for the researcher to label it and for the participant to intuitively understand. Research suggests that the reliability of a scale reaches its peak with a scale length of 5 to 7, with bipolar labels ranging from "completely disagree" to "completely agree" ¹⁶⁷ ¹⁶⁸. For this thesis, a 5-level scale including a "neutral" option was chosen.

Questionnaire revision is another part of survey design. While being helpful in identifying problematic questions that are not clearly understood by participants, studies suggest that the revision process only has limited positive influence on revised questionnaire results ¹⁶⁹. Nevertheless, the questionnaire was firstly

¹⁶⁴ Fox-Rushby et al. - Methods for pre-testing and piloting survey questions p. 323 ff.

 ¹⁶⁵ Krosnick & Presser – Question and Questionnaire Design p. 49
 ¹⁶⁶ Krosnick & Presser – Question and Questionnaire Design p. 7 f.

¹⁶⁷ Birkett – Selecting the Number of Responsive Categories p. 488 ff.

¹⁶⁸ Alwin - Feeling Thermometers Versus 7Point Scales p. 320

¹⁶⁹ Forsythe et al. – Does Pretesting make a Difference p. 541 f.
revised by a qualified psychologist and secondly, discussed with a selection of gamers that have purchased decorative items in online games, through a qualitative discussion. After posting the survey, the Head of Analytics and User Research for Guild Wars 2 John Hopson, who coincidentally also took part in the survey, noted that he approved the survey, which can be seen as valuable acknowledgement.

For the sake of comprehensiveness, the factors influencing gamers purchasing decisions of virtual decorative items for this thesis were categorized in several clusters ¹⁷⁰. The original questionnaire consisted of six clusters derived from previous research (see appendix C1), which were expanded to a total of 7 clusters after conducting the qualitative interviews, which are explained extensively in the qualitative analysis. One additional cluster was then added for the second questionnaire, that featured a range of questions that were derived from the interviews and are centred around game-inherent factors. This was done with the intention of being able to further examine the influence the game type has on the answers of the participants. An overview of the questions can be found in appendix E1.

In order to enable a direct comparison between the surveys for the two games, the questions had to be formulated in a way that makes them reasonable for players of each game, although the games feature different mechanics and gameplay elements. Thus, question 36, 37 and 50 have slight adaptations in their exact wording, which can be again found in appendix E1.

9 The Quantitative Analysis

Due to the different purposes of the two surveys, different quantitative methods were used in each analysis. While the purpose of the first inquiry was to show general attitudes and tendencies of gamers towards different statements, the second survey was additionally conducted to examine the influence of the game's genre, age and gender. For the analysis, two different correlation methods were used. Since the ordinal data collected through the Likert-questions in the surveys is non-parametric and independent, the Mann-Whitney U test was chosen for the comparison of two sets of data and the Kruskal-Wallis-Test for the comparison of more than two sets of data¹⁷¹. Both of these tests don't compare means, but assign

¹⁷⁰ Pew Research Center – Questionnaire Design

¹⁷¹ Winter & Dodou – T-Test versus Mann-Whitney-Wilcoxon p. 1 ff.

ranks to the specific values, which is why the Mann-Whitney-U-Test is also referred to as the Wilcoxon rank sum test ¹⁷². For the Mann-Whitney U test, the data is split into two groups that are to be compared. Regarding this thesis, this was done to firstly, compare the influence of the game type, and secondly, the gender of the survey participants. To test the influence of age, the participants were split in more than two groups. For gender, due to the limited survey size, only female and male participants were compared and participants with diverse gender were excluded. When using the Mann-Whitney U test, the null hypothesis always assumes that there is no significant influence between the two factors that are being observed. The null hypothesis is declined in cases where the calculated significance is equal or smaller than the value of 0,05, which means that the probability that the null hypothesis is correct is smaller than 5% ¹⁷³. Using SPSS, the effect strength called "r" can be calculated, and the influence of a factor can be categorized in weak (r <0,1), middle (0,1 \leq r < 0,5) and strong (r > 0,5) effect strengths ¹⁷⁴. To calculate the influence of age on the survey results, the participants were categorized in 3 age groups. For the analysis, in a first step the Kruskal-Wallis-test was used, which uses the same null hypothesis as the Mann-Whitney-U-test, but can be used for the comparison of more than two variables. In cases where the results of the asymptotic significance from the Kruskal-Wallis test was smaller or equal to 0,05, the Mann-Whitney U test was again used to calculate the effect strength of the influences between each of the three different age groups ¹⁷⁵.

9.2. Analysing Likert-Scales

Except for the introductory questions, all the remaining questions in the questionnaires are 5-step Likert-type questions that produce ordinal data. In order to allow statistical analysis methods, a number is allocated to every scale on the Likert-scale, with 1 being assigned to "Completely Disagree," 2 to "Partly Disagree," 3 to "Neutral," 4 to "Partly Agree" and 5 to "Completely Agree". There is an active discussion about including "neutral / don't know" answers in Likert-type questions as well as their proper handling in statistical analysis. The question is whether neutral questions should be excluded from the analysis and be counted

¹⁷² Mann & Whitney - Annals of Mathematical Statistics p. 50 - 60

¹⁷³ McLeod - What a P-Value tells you

¹⁷⁴ Cohen – A Power Primer p. 156

¹⁷⁵ Kruskal – Use of Ranks

as missing answers or not ¹⁷⁶ ¹⁷⁷ ¹⁷⁸. Since there is no universally accepted answer to this and the questionnaire offered "neutral" as an answer, for this thesis they will be included in the analysis.

For the analysis of the first survey, it is important to differentiate between Likerttype items and Likert scale data. Likert items are the individual questions and statements given to participants, whereas a Likert scale is a combination of at least four Likert items that form a contentual cluster together ¹⁷⁹. For this thesis, this means that the individual questions in each cluster are Likert-type items, whereas the cluster itself forms a Likert scale. Likert items are considered non-parametric ordinal data, whereas Likert scales are considered interval scale data and therefore allow for different data analysis methods ¹⁸⁰. The methods used to analyse Likert items produce results regarding singular questions, whereas the methods used to analyse the Likert scales allow statements about a whole cluster.

For Likert items, frequencies can be used to show the variance of answers while the median and mode will be used to show central tendencies ¹⁸¹. According to Stevens (1946), the mean is usually not an appropriate calculation method for ordinal data, as the difference between the scale levels cannot be considered equal. But he also states that it can be useful when used cautiously in certain instances ¹⁸². This implies that the mean can be used as an indicator of tendency that implies a higher general level of agreement the higher it is and, conversely, a higher level of disagreement the lower it is. But it cannot be used to predicate the exact value of agreement in the sense that a 4,4, for example, means that people agree with the statement 10% more than if the value was 4, but only that the general level of agreement is higher. Regarding this thesis, it will be used together with the variance to analyse the distribution of votes in both surveys. Calculating the internal validity of single questions has only very limited benefits and will thus be excluded from this thesis ¹⁸³. But for the cluster or Likert scales, Cronbach's Alpha will be used to show the scale reliability for the first questionnaire, and the variance will be used to account for the dispersion of the distribution 184.

¹⁷⁶ Sturgis et al. - Middle Alternatives Revisited

¹⁷⁷ Justin – Researchgate: Neutral and Undecided Options in a Likert-Type Scale

¹⁷⁸ Bdair – Using a Likert Scale

¹⁷⁹ Subedi - Using Likert Type Data p. 40 f.

¹⁸⁰ Boone & Boone – Analyzing Likert Data p. 3

 ¹⁸¹ Jamieson – Likert Scales p. 1217
¹⁸² Stevens – On the Theory of Scales of Measurement p. 679

¹⁸³ Gliem & Gliem - Cronbach's Alpha Reliability Coefficient for Likert-Type Scales p. 84 f.

¹⁸⁴ Blaikie – Analyzing Quantitative Data p. 219

Regarding the analysis, a factor can be seen as partly approved if the mean is situated between 3,5 and 3,99, and completely approved when it's situated between 4 and 5. Accordingly, a factor can be seen as partly rejected if the mean is situated between 2,49 and 2 and completely rejected if it is situated at 2 or lower. For questions with a mean between 2,5 and 3,5, no meaningful tendency is discernible.

9.3. Summary of the first Survey

Here is an overview of all factors that were either completely approved, partly approved, partly rejected or completely rejected based on the survey results. A complete overview of the exact means and variances for all questions can be found in appendix C2.

Completely Approved:

- Wanting to look cool
- Wanting to look pretty
- Deciding independently
- Playing for a long time
- Enjoy the game

Partly Approved

- After buying a skin I feel good
- Having money left over
- Skin marketplace is positive

Partly Rejected

- Looking like ideal self
- Cultural background

- Not looking like a new player
- Buying skins for offline games
- Higher price = cooler skin
- Getting inspiration from others
- Caring about recommendations
- Belonging to a group
- Disliking other players
- Feeling bad after buying a skin
- Substitution for shopping in real-life

Completely Rejected

• Replacement for going out

To summarize, wanting to **look cool** was voted the most important factor that influences the purchasing decision of players with a mean of 4,75 out of a maximum of 5. Out of a total of 378 participants, only 5 said they at least partly

disagree with this statement. The second most important factor with a mean of 4,62 was that players generally must enjoy the game for which they buy skins. Players also on average completely agreed that they decide independent of others when they purchase a skin, signalled through a mean of 4,41. With equal means of 4,36, the last completely approved factors are the desire to **look pretty** with a skin and that the respective game has to be played a lot before a decorative item is purchased. Interestingly, looking pretty showed the highest divergence in the dispersion of opinions with a variance of 0,974, which indicates that some players care about looking pretty a lot, whereas others care about it less. When looking at the partly approved factors, although the survey suggests that players generally have no high price sensibility when it comes to buying skins, a skin is usually only bought when the person has some **money left over** at this time, which is indicated by a mean of 3,98. This shows that gamers in general enjoy wearing skins, but that it doesn't have the highest priority in their life, and is rather considered a form of luxury good. Coming in sixth place is the positive feeling most gamers get after buying a skin, which serves as positive reinforcement, indicated by a mean of 3.8. Possibly the most interesting result of this survey for a practical implementation could be the fact that players see it as positive if they have the opportunity to sell their skins via a marketplace, which was indicated through a mean of 3,71, although the very high variance of 1,98 indicates strongly varying opinions about this. The only factor that was completely rejected with a mean of 1,96 asked, if buying skins is seen as a **replacement for going out** for the players. Since space is limited, the partly rejected questions and the questions that showed no clearly identifiable tendency are excluded from this summary. But a statistical analysis for each of found the factors can be in appendix C2. Summarized, 5 questions were completely approved and 3 partly approved, out of a total of 32 questions, which translates to 25% of all cases. At the same time, 11 questions were partly rejected and one completely. 12 questions showed no clear approval or rejection as they were situated around the neutral value. This number could have been reduced by removing the option to give neutral answers in the Likert-scale. But forcing participants to voice opinions even in cases where maybe no clear tendency is perceptible would lead to a distortion in the answers and thus limits the survey result's usefulness. It also must be noted that the previous statements only give evidence for the general population of gamers. Thus, even statements that were completely rejected by the majority of gamers might still positively influence some of the participants. Ultimately, except for question 4,

every question had a dispersion of votes throughout all options of the scale. Question 4 asked players if they want their character to look cool and through the variance of only 0.38 signalled the highest consensus in the opinions of the participants. And although nobody chose that they partly disagree with this statement, 5 people said they completely disagree with it. Thus, there are always exceptions to the general opinion and there are no universally applicable factors for all gamers. Additionally, there are limitations to the survey results, like the solitary collection of the sample through Reddit or the possible influence of social desirability bias. The high disparity in opinions in the results also indicates that there are individual differences that influence the decision-making process, but it also seems likely that the respective games the players play have significant influences on the results, which was also confirmed through general feedback given by the participants on Reddit. Playing a first-person game or third-person game would, for example, have influences on the emotional attachment to the avatar. The emotional attachment would also be influenced by the fact whether a game has a story, like role-playing games usually do, or not, like most egoshooters. The influence of the game and other factors need to be further elaborated through the subsequent research.

10 The Qualitative Inquiry

The aim of the qualitative inquiry is to firstly gain a deeper understanding of the decision-making process of the participants and secondly to examine, if there are factors that influence that decision-making process in regards to purely decorative elements in online games, that were not considered by previous literature. Thus, in-depth interviews were chosen as the qualitative research method. in-depth interviews require specialized skills from the interviewer. Regarding this thesis, the researcher conducting the interviews received his qualifications during his bachelor's degree in Business-Psychology.

10.1. In-Depth Interviews

The in-depth interview is a specialized interview technique that aims towards finding exhaustive profound motivations and convictions of an interviewee regarding a certain topic. The basic principle of in-depth interviews goes back to Freud's psychoanalysis. As the American marketing expert and psychologist Ernest Dichter, who is commonly referred to as the father of motivational research, puts it: *"Whatever your attitude toward modern psychology or psychoanalysis, it has been proved beyond any doubt that many of our daily decisions are governed by motivations over which we have no control and of which we are often quite unaware."* ¹⁸⁵. Through its long duration of at least 2 hours and the required specialized skills and knowledge of the interviewer, in-depth interviews are supposed to unveil psychological coherences based in the sub-conscious of the interviewees ¹⁸⁶. Thus, if done correctly, in-depth interviews are a versatile research method that can generate rich data that allows to understand a person's behaviour, decision making process and motivations in their respective context ¹⁸⁷. The basic principle of in-depth interviews is that inherent psychological processes can be unveiled through narratives ¹⁸⁸.

10.2. Structure and Procedure

The structure of in-depth interviews ranges from lightly structured to heavily structured ¹⁸⁹. As the purpose of interviews in the context of this thesis is to convey an in-depth understanding of the decision-making process and motivational factors that influence gamers, partly based on the results of the quantitative survey but not limited to it, a semi-structured interview was chosen ¹⁹⁰. In a semi-structured indepth interview, the interviewer has a range of topics that need to be covered and can interact with the interviewee by asking questions and encouraging discussion in a conversational style ¹⁹¹.

One of the strengths of in-depth interviews is that due to their open nature, interviewees can talk about topics they deem important in their own terms, which can result in new and relevant information about a topic ¹⁹². Hence, the interviews are mainly explanatory, but due to their narrative nature, also exploratory. Additionally, with semi-structured interviews compared to other forms of interviews, the interviewer can act as "knowledge-producing participant," ¹⁹³ rather than being an ostensibly objective entity. The structure of the interviews will follow the

¹⁸⁵ Ernest Dichter – The Strategy of Desire p. 13

¹⁸⁶ Kuß – Grundlagen der Datenerhebung (in german) p. 140 f.

¹⁸⁷ Morris – A practical introduction to in-depth interviews p. 7

¹⁸⁸ Brinkmann – Qualitative Interviewing p. 20

¹⁸⁹ Wengraf - Qualitative Research Interviewing p. 111 ff.

¹⁹⁰ Qu & Domay – The Qualitative Research Interview p. 246

¹⁹¹ Morris - A practical introduction to in-depth interviews p. 10

¹⁹² Morris - A practical introduction to in-depth interviews p. 5 ff.

¹⁹³ Brinkmann – Qualitative Interviewing p. 21

structure of the quantitative questionnaire. The topics that need to be covered are represented through the six clusters previously mentioned, which can be found in the appendix C1.

10.3. The Role of the Interviewer

The role of the interviewer is to create an atmosphere in which the interviewee feels safe to express themselves freely, while cautiously steering the conversation towards extracting relevant information ¹⁹⁴. To keep the flow of the interview, this steering should be done with the least amount of interventions possible, which is why a semi-structured interview format was chosen ¹⁹⁵. This means that the interviewer will ask questions that open the conversation about certain topics and based on the quality and content of the interviewee's answers, follow up questions will be asked to extract in-depth information about motivations. The interviewer must have expertise in the field of research, as well as certain practical skills in interviewing techniques ¹⁹⁶. With semi-structured interviews, it can also be assumed that the replies gathered from a participants will change depending on the respective interviewer, as the progression through the interview, the wording of questions and their content will differ based on the person conducting the interview ¹⁹⁷. Qu and Domay compiled an overview of a range of interview techniques that can be used by the interviewer to maintain the flow of the interview, as well as a positive relation to the interviewee. It is, for example, important that the interviewer stays as neutral as possible during the interview as to not influence the directions of the interview through non-verbal communication like nodding, showing surprise, shock, disagreement, or any other form of sentiment ¹⁹⁸. As was mentioned before, the interviewer needs to be qualified to conduct in-depth interviews. The researcher conducting the interviews for this thesis has received an intense training for in-depth interviews during his three-year bachelor's degree in Business-Psychology and has conducted in-depth interviews on numerous occasions in the past, for example, for Junge Helden e.V. about the opinion of Germans in carrying an organ-donor identification. But conducting interviews on the purchasing behaviour of gamers should be relatively straightforward, as the underlying thematic is not very sensitive, and the interview participants have shown

¹⁹⁴ Morris – A practical introduction to in-depth interviews p. 3

¹⁹⁵ Wengraf - Qualitative Research Interviewing p. 112

¹⁹⁶ Morris - A practical introduction to in-depth interviews p. 3

¹⁹⁷ Qu & Domay – The Qualitative Research Interview p. 247

¹⁹⁸ Qu & Domay – The Qualitative Research Interview p. 249

a high interest in participating in the interviews. This in turn does not mean that the results of the interviews will be automatically of a high quality, but that a high oral fluency can be expected when talking to the interviewees, as they are eager to talk about their experiences and opinions. At the same time, this also highlights one of the limitations of the in-depth interviews sampling, which is that due to the limited number of participants and their willingness and ability to speak fluently or "from the heart," gathering a completely random sample of participants is difficult. The small sample size also strongly limits the ability to generalize findings ¹⁹⁹. This again shows the usefulness of a mixed-method approach in this thesis, as the combination of generalizable quantitative research and in-depth understandings through the qualitative interviews is extremely helpful, which is why an additional quantitative survey will be conducted following the interviews.

10.4. Transcription and Content Analysis

As the first step, an in-depth interview must be transcribed to enable a methodological content analysis. The transcription is a precise depiction of the interview and thus, usually includes all forms of acoustic utterances, such as laughter, sighs, long breaks and other forms of signals that give an indication of the emotional state or thought process of the interviewee ²⁰⁰. The manual of transcription (3rd edition) summarizes some important transcription rules, such as the approximation of informal contractions into standard language (e.g. wanna = want to), the exclusion of stutters and word doublings, the indication of pauses of at least 3 seconds with the use of brackets and points (...) and more ²⁰¹.

For the analysis, a simplified version of Mayring's Content Analysis was chosen. Simplified because the qualitative survey does not have to meet the criteria to be able to stand on its own, as it is supplemented by an additional quantitative study. Thus, the questions of validity and reliability are of lesser importance in the qualitative part, as these questions will be answered through the subsequent quantitative survey. Thus, only a selection of processes is assumed to make the analysis fit the mixed method approach of this thesis, as well as its spatial limitations.

Hence, after transcribing the interviews, the interviewer must read through the transcripts and highlight all relevant information regarding the topics of interest,

¹⁹⁹ Morris - A practical introduction to in-depth interviews p. 7

²⁰⁰ Bock - Das halbstrukturierte-leitfadenorientierte Tiefeninterview p. 98 f.

²⁰¹ Dresing et. Al. - Manual (on) Transcription p. 28 f.

which are then allocated to the respective topics or clusters of the interview guideline. Information that is relevant, but does not fit to one of the laid-out clusters, must be allocated to a new cluster or category ²⁰². Regarding this thesis, these categories were deductively derived from previous literature and are represented by the clusters of the quantitative questionnaire. Additionally, in the case of evident manifestation of topics not covered by the deductive clusters throughout the interviews, further categories can be formulated inductively ²⁰³. Through the consolidation of statements into the different categories, a systematic approach towards the content analysis can be accomplished. Individual statements between interviewees towards a certain topic can be easily compared and universal propositions become apparent. In the analysis part, rather than giving summaries of the different interviews, each cluster will be analysed with the statements given by all participants.

10.5. Sample

The participants of the qualitative interviews are native German speakers. Although this thesis is written in English, the interviews are conducted in German, which is due to the fact that the interviewees were all native German speakers. The idea to conduct the interviews in English was taken into consideration, but indepth interviews are a highly complex and precise procedure, and the loss of knowledge due to limitations in linguistic competence in English should be avoided.

- Participant 1: Female, 21 years old, has bought skins for League of Legends
- Participant 2: Male, 33 years old, has bought skins for World of Warcraft, League of Legends, Guild Wars 2, Final Fantasy XIV and more
- Participant 3: Male, 35 years old, has bought skins for Heroes of the Storm, Fortnite, Atellier, The Legend of Heroes and multiple other JRPGs
- Participant 4 was excluded from the analysis when it became apparent that he did not buy cosmetic items, but functional items.

²⁰² Mayring – Qualitative Inhaltsanalyse p. 86

²⁰³ Mayring - Qualitative Content Analysis p. 3

11 The Interview Analysis

As will become apparent when reading the analysis of the interviews, the statements given by the participants will partly be contradictory. This is a phenomenon that often arises when people are challenged to actively think about their decisions for the first time ²⁰⁴. This does not mean that the statements are not valid, but that the participants were simply not conscious of their real motivations behind certain actions initially. These contradictions can be partly rooted in human nature, for example, compartmentalisation, but in some cases, can also be considered shortfalls of the interviewer ²⁰⁵. To understand the influence of compartmentalisation, the statements were categorized in different clusters and subcategories. To counter the deficits in the interviewing techniques, the interviewes are supplemented with a quantitative survey.

11.1 Social Hierarchies and Interaction

The Social Hierarchies cluster was the cluster with the most allocated statements and was split up into two subcategories. Due to the nature of the results gathered, the social hierarchies cluster, which was adapted from the design of the first questionnaire, was renamed into the "Social Hierarchies and Interaction" cluster.

The subcategories were built by allocating statements with similar contentual meaning. They contain statements of all three participants, with participant 3 having the most frequent remarks. This might be partly due to the different games the participants play, as the level of player interaction, gameplay and the virtual world itself influence the perceived importance and role skins play for the players, which will be further elaborated in later topics of the analysis. Additionally, the subcategories partly have fluent borders, but should be comprehensible. For example, the subcategories "Showing Off" and "Player Interaction" have fluent borders, as it is impossible to show off without interacting with other players. But as will become apparent, showing off means putting yourself above other players, while player interaction is aimed towards building friendships and enhancing the

²⁰⁴ Ritchie & Lewis - Qualitative Research Practice p. 152

²⁰⁵ Berliner - How our Contradictions make us Human

enjoyment of the gameplay. An overview of all statements can be found in the appendix B1.5..

Seeing and Being Seen

Seeing and being seen is likely to be the most ambiguous of the subcategories in the social hierarchies cluster. The statements given by all 3 participants for that cluster do not include any form of valuation, meaning that the interviewees didn't say that they want to be seen for the sake of eliciting a certain reaction, but that it's simply a necessity to be able to be seen by other people after having purchased a skin. A positive reaction is inherently desired, but simply getting any form of reaction is obligatory and cannot be mitigated through intrinsic motivations. As interviewee 3 put it "[...] in multiplayer games, I would actually only buy things if I really want to be seen" ²⁰⁶. Thus, skins that attract a larger amount of attention are also seen as more interesting. Interviewee 2, for example, bought the DJ Sona Ultimate Skin in the game League of Legends despite its high price of 3.250 Riot Points (around 20€). The skin is purely decorative, but lets the player pick from a range of musical interludes that are audible for all other players in proximity. As interviewee 2 said, he would have not bought the skin if the music was only audible for him, but the fact that it was "global" 207 convinced him in the end 208. Consequently, this should mean that players are not willing to spend money on skins for offline games. However, at least one of the participants bought multiple skins for offline games, but those skins served a different purpose than mentioned here. Additionally, eliciting a reaction does not necessarily have to be related to a real player. Participant 2 also stated, that if non-player characters (NPC) in offline games would show a reaction to a skin, he could imagine also buying skins for offline games 209.

Showing off / Impressing others

Showing off and impressing others is one of the most frequently mentioned clusters but was not unambiguous in its meaning for the participants. Most of the statements are allocated to participant 3, who played a range of RPGs and Japanese role-playing games (JRPGs). His statements of wanting to impress people can be separated into impressing people by being able to afford certain skins and impressing people by looking cool ²¹⁰. But wanting to impress others is

²⁰⁶ Interview 3 - #01:11:58-0#

²⁰⁷ Interview 2 - #02:04:14-0#

²⁰⁸ Interview 2 - #02:04:26-5# + #02:05:13-1#

²⁰⁹ Interview 2 - #00:59:22-1#

²¹⁰ Interview 3 - #00:23:20-6# + #00:50:26-0# + #01:52:41-3#

also just one part of the reason why he buys skins. Aesthetics are still more relevant to him, as he said the distribution of importance is 66% aesthetics and 33% wanting to impress others ²¹¹. This statement is also supplemented by participant 2, who also says that liking the skin yourself is of primary importance and participant 1, who says that playing is usually about winning, but it's even better if you can look cool while you are winning ^{212 213}. Simultaneously, showing off can also be seen as an obstacle to buying new skins. Especially if those skins are expensive. "I mean, sometimes it actually poses a problem, when I would like to buy a skin that looks amazing, but I expect, especially in real multiplayer-games, that people will come and say, look at him, he spent 50€ for that." ²¹⁴. This supports the previous statement that a positive reaction is desired, extended by the fact that a negative reaction is dreaded.

11.2 Player Interaction, Recognition and Feedback

As was mentioned in the introduction to this cluster, the difference between this subcategory and the previous ones is the aim of having positive interactions with other players, such as building friendships, or enhancing the general enjoyment of the gameplay. Player interaction, recognition and feedback is the second-most mentioned subcategory in the social hierarchies cluster, but is only made up of the statements of participants 2 and 3. This again is due to the fact that participant 1 only bought skins for League of Legends. This is also why participant 2 only has a limited number of statements here as well, as he also spends a majority of his gaming time and money on League of Legends. Interviewees 2 and 3 agree that having a high grade of interactivity and player interaction serves as a big motivator in designing avatars and buying skins ²¹⁵ ²¹⁶. To be precise, the goal in designing the avatar is to get the praise and positive feedback of others ²¹⁷ ²¹⁸. As participant 3 put it "As a human [...], you know who you are by receiving feedback from others." ²¹⁹. It must be specified that the desired

- ²¹⁵ Interview 2 #01:42:10-4#
- ²¹⁶ Interview 3 #00:50:26-0# + #01:25:34-7#
- ²¹⁷ Interview 2 #00:34:53-6# + #02:00:42-8#

²¹¹ Interview 3 - #00:25:29-5#

²¹² Interview 1 - #00:21:27-4#

²¹³ Interview 2 - #02:04:14-0# ²¹⁴ Interview 3 - #00:23:20-6#

²¹⁸ Interview 3 - #00:48:36-8# + #00:50:26-0#

²¹⁹ Interview 3 - #00:47:49-7#

form of praise is not aimed towards having bought a specific skin, but rather an appreciation of a player's creativity and design choices ²²⁰. This is also why participant 1 is not represented in this subcategory, since in League of Legends it's not possible to customize your character or combine different skins or parts of skins together ²²¹. Having a unique look can also lead to a higher recognition by other players, which is again more important in role-playing games ²²².

Prestige and Status

Prestige and status are topics that were partly already covered inherently in the previous subcategories. But gaining prestige through a certain skin is only possible in a few special circumstances that need further elaboration. For example, none of the participants felt like owning an expensive skin is prestigious. Expensive skins often times, especially in League of Legends, have a higher inherent quality than cheaper skins, which is the only reason why they are seen as better ²²³. In the interviews, two different skin types emerged as prestigious. The first ones are skins that cannot be bought, but earned through gameplay, for example, by reaching the gold rank in League of Legends or by completing difficult missions e.g. in Destiny 2²²⁴ 225. The other types are skins that are only available during an early stage of the game, like the first season or even the Beta-phase, which show other players one's own veteran status ²²⁶ ²²⁷ ²²⁸. As participant 3 elaborated, the skin is not meant to signal to other people that they are in turn new players (colloquial = noobs), but "if you ever get in a certain situation, I have the authorization to call somebody else a noob" ²²⁹. Participant 1 said that in League of Legends, she usually prefers a skin that she finds aesthetically pleasing. Only in games where performance is at the centre of attention is the gold prestige skin chosen ²³⁰. She also added that in her earlier years when she didn't yet own a lot of skins that she felt skins were a status symbol. But now that she is older and owns more skins, she doesn't feel that way anymore ²³¹. Participant 2 stated something very similar

²²⁰ Interview 3 - #00:50:45-2# + #00:50:54-4# + #00:53:00-0#

²²¹ Interview 2 - #01:43:12-0#

²²² Interview 3 - #00:55:04-2# + #01:25:34-7#

²²³ Interview 2 - #02:01:46-1#

²²⁴ Interview 1 - #00:28:16-0#

²²⁵ Interview 2 - #01:46:07-7#

²²⁶ Interview 1 - #01:52:06-5# + #01:52:15-7# + #01:53:05-1#

²²⁷ Interview 3 - #00:03:38-4# + #00:30:00-0#

²²⁸ Interview 3 - #00:26:29-1#

²²⁹ Interview 3 - #01:29:10-8#

²³⁰ Interview 1 - #00:52:46-8#

²³¹ Interview 1 - #00:52:12-5# + #01:19:54-7#

when he said that when he bought his first skin, he also wanted other people to be jealous of him ²³².

11.3 Self-Expression and Ideals

The self-expression cluster is split up in four different subcategories. After analysing the statements given by the participants, it became obvious that the way the players expressed themselves inside a game was primarily aimed at representing general ideas of ideals, rather than trying to represent the ideal version of the players themselves. As will become apparent after reading the summaries for the subcategories, these representations of ideals are closely related to the cluster of Immersion. The difference is that being immersed in the game can act as a motivator to purchase decorative items, whereas buying decorative items can also be motivated by wanting or trying to achieve a higher level of immersion. Thus, a player that is trying to design their avatar in a game, is on the one hand trying to authentically express his or her ideals of what they think is suitable for the character, while simultaneously trying to make their character look as cool or pretty as possible. Based on the statements by the survey participants, a stealthy assassin for example would have to meet the ideal images the interviewees have of the traits, a real-life assassin is assumed to possess to some degree, meaning he wouldn't be designed as a big, conspicuous looking person, but rather delicate and unobtrusive ²³³. Thus, the players are expressing their own ideals regarding certain aspects in order to enhance the level of immersion that is already prevalent in the game, which is why this cluster is now called self-expression and ideals. Summarized, immersion is the effect of the player's self-expression and not the motivator. This will become more obvious after having read both topics, self-expression and ideals, and Immersion.

Representing Ideals

As was already elaborated exhaustively in the introduction to this cluster, representing ideals does not necessarily mean that players are looking to represent their own ideal selves ²³⁴. As participant 2 put it: "I would never refer that to myself. But I would want to design for example a strong male character that fits

²³² Interview 2 - #00:29:23-5#

²³³ Interview 2 - #00:55:57-1#

²³⁴ Interview 1 - #00:40:44-1#

into the world. Where you just say okay, this is my knight, he should be like 2,05 meters, have loads of muscles and such, yeah." ²³⁵. Or as participant 3 put it: "And it's really like that for an archer, the female version, probably influenced by social imprint, the female version of an archer looks more like I imagine an archer to be like, like agile and graceful, but also a little bit fragile, which is why I would choose a female character as an archer, whereas for a tank in a heavy amor, I also want him to be a huge behemoth in a heavy armour and not a chick whose heavy armour is actually a belly top." ²³⁶. These ideals are often times stereotypical, or at least very traditional role models, but they are also as realistic as possible, which again serves the purpose of not disrupting the level of immersion in a game ²³⁷. But there are also exceptions to this rule, when a real-life interest or a comedic factor outweigh the interest to stay authentic, which in turn is also dependent on the specific game played. Participant 3 gave the example of the champion Kog Maw in League of Legends, who in his original form is a void-born beast of bug-like shape that emits acid on its prey and enemies, but with the Pug'Maw skin can be turned into a pug²³⁸. Participant 3 said he feels like this skin does not fit the character but although it is hard to find valid sources, by his claims it is a highly successful skin, which is also backed by Reddit threats and comments ²³⁹. Thus, based on the character of the respective player, the exact definition of ideals and authenticity are very subjective.

Representation of Self

Depending on the game, the avatar can act as a representation of the player's self. This is especially the case with role-player games, which is going to be examined in more detail in a later topic. This statement is also validated by participant 1, who only plays League of Legends, which is not a role-player game but an action real-time game. She stated that due to the fact that it is neither possible to customize the look of the avatar itself, nor to customize the composition of a specific skin or to combine different parts and looks, to her representing her ideal self in League of Legends is not important at all ²⁴⁰. Participants 2 and 3 partly object to that statement, as they both play role-playing games and state that their avatar is, in one form or another, a representation of their selves, although there are differences

²³⁵ Interview 2 - #00:32:44-3#

²³⁶ Interview 3 - #01:16:02-3#

²³⁷ Interview 3 - #01:16:44-5# + #02:04:13-9#

²³⁸ Interview 3 - #00:08:29-1#

²³⁹ Reddit - Why is the Pug'Maw Skin in 100% of these Kog Games?

²⁴⁰ Interview 1 - #00:39:11-1#

in the individual perceptions of their avatars ²⁴¹ ²⁴². Participant 2 said that role-play characters can be used to represent ideal versions of himself ²⁴³, whereas participant 3 said that his characters are not an absolute representation of his character and only display certain traits that in normal day life cannot be expressed ²⁴⁴. As he said "I carry my own self... I mean I play games partly because there are aspects of my character, I mean my real self, that are there, that I don't think are important in real-life. I mean I don't really want to own a weapon [...] but in the game, yeah, I want to express aspects of my character, which I usually wouldn't do, or more specifically, that wouldn't otherwise be important, there I just want to act out on them." ²⁴⁵. Designing an online character, giving it certain traits and playing with it can thus be seen as a sort of venting-mechanism. But it also has to be specified, that neither of the participants gave the impression that this aspect plays a major role in their skin-purchasing decisions but is rather a role-playing inherent characteristic. Participant 3 also added that an interesting aspect of playing role-playing games to him was discovering alternative selves, but that this was more interesting to him in an earlier stage of his life when his own character wasn't as solidified yet ²⁴⁶.

Although this could be also regarded as a separate subcategory, skins related to the cultural background of players are not interesting to any of the participants ²⁴⁷ ²⁴⁸ ²⁴⁹. Except for one instance, when participant 2 said that he doesn't have any interest in representing German culture online, but when the European team G2 made the world finals in League of Legends in 2019, he said that he would have bought all G2 skins that would have come out if they won the finals (which they didn't) ²⁵⁰. To understand this motion, it is important to understand that in League of Legends for many years there was a large gap between the skills of western players and eastern players in international tournaments, which is why it can be assumed that, in terms of skill-level the east looked down on the west. So, when G2 was at the brink to overcome this obstacle, it suddenly would have become prestigious to wear their skin. So, in this instance, wearing a European skins suddenly becomes a question of prestige rather than the representation of a certain

²⁴¹ Interview 2 - #00:41:26-5#

²⁴² Interview 3 - #00:47:49-7#

²⁴³ Interview 2 - #00:34:53-6#

²⁴⁴ Interview 3 - #00:49:24-3# + #00:49:42-8#

²⁴⁵ Interview 3 - #00:49:24-3#

²⁴⁶ Interview 3 - #02:14:58-5#

 ²⁴⁷ Interview 1 - #01:57:24-6#
²⁴⁸ Interview 2 - #01:42:18-0# + #01:43:27-9#

²⁴⁹ Interview 3 - #02:02:59-3#

²⁵⁰ Interview 2 - #01:28:24-2#

culture, which is also underlined by the fact, that the participant was not even a fan of G2.

Sexuality

Sexuality and perceived sexiness can influence a player's character building and skin purchasing decisions in several ways, although it was shown to have different levels of influence and importance in the interviews. Participant 1, who was the female interview partner, stated that the bust size of a character or its depiction through a different skin has an influence on her perception of a champion, although due to the properties of the game this plays a bigger rule in the artwork, since the proportions are not discernible in-game because of the small size of the avatars ²⁵¹. She also added that the depiction of a range of the female champions in League of Legends are anatomically unrealistic but did not voice any form of discontent with it ²⁵². Participant 3 said that he could imagine sexiness to influence his skin purchasing decisions, but that to this point it didn't happen yet ²⁵³. He also specified that if he ever bought any kind of tantalizing skin, he would hide it from everybody else, hoping nobody would ever find out about it, which is why he would exclusively do it in single-player games ²⁵⁴. Participant 2 differentiated between two different ways in which sexual desires can influence his decision-making process. The first type was real-life-related and applied to his relationship with his girlfriend, whom he met through League of Legends, and who did cosplay. In this case, he bought her a sexy skin for one of the League of Legends champions in the hopes that she would also cosplay this character in real-life ²⁵⁵. The second type is game-related when the avatar becomes an object of desire, simply pleasing to look at, and possibly even a virtual girlfriend ²⁵⁶. Attractiveness was also the main motivation behind his first skin purchase ²⁵⁷. Furthermore, since avatars can be seen as a reflection of their players, having an enticing character in roleplaying-games can also lead to philandering with different players ²⁵⁸.

Roleplaying

Roleplaying only played a minor role in the interviews, which is partly due to the fact that it can mainly only be done in role-playing games and thus excludes

²⁵¹ Interview 1 - #00:33:16-4# + #00:34:21-8#

²⁵² Interview 1 - 00:33:44-3#

²⁵³ Interview 3 - #01:13:24-2#

²⁵⁴ Interview 3 - #01:13:46-4# + #01:14:29-1#

²⁵⁵ Interview 2 - #00:30:24-5# + #00:31:12-8#

 ²⁵⁶ Interview 2 - #00:32:44-3# + #01:09:33-0#
²⁵⁷ Interview 2 - #00:29:23-5#

²⁵⁸ Interview 2 - #00:34:53-6#

interviewee 1, and partly due to the fact that participant 2 was more interested in cosplaying. While roleplaying means trying to emote a fantasy or ideal, cosplaying means dressing up a as a fictional character ²⁵⁹. Only participant 3 said he had an interest in roleplaying, for example as Motoko Kusanagi or any kind of (cyber-)ninja in general, in a cyberpunk environment and has done so in the past already ²⁶⁰. He also elaborated that in the case of roleplaying, he would only do it for a character he really likes and not with the intent to troll people or achieve a comedic reaction ²⁶¹.

11.4 Feelings of Immersion

The feelings of immersion cluster was split up into 3 subcategories. Again, the different types of games the participants play influence the respective appreciation and importance of feeling immersed in a game and how it influences the decision-making process. As was mentioned before, interviewee 1 does not play role-playing games and thus showed less affection towards immersion. Comparably to the introduction of the self-expressions and ideals cluster, not being able to precisely customize champions leads to a weaker emotional attachment and additionally a lower immersion in the game. Nevertheless, certain criteria must still be met in order to guarantee an unimpaired gaming experience.

Authenticity

Authenticity is presumably the most important subcategory for this cluster and was mentioned by all survey participants. There are two different ways authenticity comes into play. The first one is that skins that are designed by a gaming company must fit into the gaming world ²⁶². The exact definition of authenticity heavily relies on the opinions of the respective player. An example for this was already mentioned with the Pug'Maw skin, where a rather dreadful monster can be turned into a pug, which is apparently a highly successful skin. Another example stated by participant 3 are bikini skins that are available in many JRPGs and which in his opinion alleviate the ambience of a game ²⁶³. This example also goes to show that since, based on his statement, bikini skins are available in several different Japanese role-playing games, it can be assumed that there is a certain revenue generated with them, too. Participant 1 also elaborated that her first impression of

²⁵⁹ Wikidiff - Roleplay vs Cosplay - What's the difference?

²⁶⁰ Interview 3 - #01:07:10-2# + #01:16:44-5# + #02:04:13-9#

²⁶¹ Interview 3 - #01:07:42-4#

²⁶² Interview 2 - #00:34:53-6#

²⁶³ Interview 3 - #01:12:52-7#

the Louis Vuitton collaboration was that the skin didn't fit the world of League of Legends, but that her opinion changed due to a variety of reasons like the brand-recognition value, the skin itself, the surrounding marketing efforts like the animated music-video and lastly because the brand image of Louis Vuitton suited the character of the champion Qiyana ²⁶⁴. Like she said "[...] it looked fresh and it also suits her since she is a little bit like, yeah, like a Popstar Bitch." ²⁶⁵.

The second way that authenticity influences the gamer's decision-making process was mentioned by participant 2, who said that the goal of having a high authenticity even influences how the characters are played ²⁶⁶. This means that if a character has a certain role or job, the character design and playstyle will follow that role. In Guild Wars 2, he controls a range of champions that have certain roles, like warrior, guardian or thief. And not only does the design have to fit these roles, which was already mentioned in the self-expression cluster, but that each of these roles also carries with it an inherent characteristics that influence gameplay and decision-making ²⁶⁷. In situations where the player is given a choice, for example between being ethical and returning a lost item or keeping it for their own sake, the decisions that are taken are based on the different characters, where the thief would keep the item and the guardian and warrior would return it. As he explained it, the guardian and warrior are "strong, protective, honest, open and loyal" ²⁶⁸. Thus, a game should offer skins regarding the different roles characters can assume.

Lore and Story

The lore in a game refers to the background stories of a character or champion, that are usually not learned during the game, but are additions that can be found on the internet in fandom wiki pages or merchandise articles like a compendium and such. Although both participants who played League of Legends owned a version of the compendium "League of Legends – Reals of Runeterra" book, they both agreed that lore is interesting, but less important than good story design and also both only have a limited influence on the skin purchasing decisions ²⁶⁹ ²⁷⁰. Participant 1 elaborated that she knows the lore of the champions she plays and partly enjoys using different skins because it allows her to experiment with different looks and put the champions in a different story ²⁷¹. Thus, it can be said that story

²⁶⁴ Interview 1 - #00:03:19-5# + #00:05:10-3#

²⁶⁵ Interview 1 - #00:05:10-3#

²⁶⁶ Interview 3 - #00:38:38-5#

²⁶⁷ Interview 3 - #00:43:25-3#

²⁶⁸ Interview 3 - #00:45:09-5#

²⁶⁹ Interview 1 - #00:22:40-8#

²⁷⁰ Interview 2 - #01:05:33-0# ²⁷¹ Interview 1 - #00:19:09-8#

and lore have a limited influence on the decision-making process but are nevertheless crucial elements of a good game.

Emotional Attachment to Avatar

Participant 1 said that she only has weak emotional attachments to the champions she plays, which is once again partly due to the game League of Legends and its previously mentioned characteristics. But even the two participants who play RPGs were reserved towards the idea of having an emotional attachment to their avatars. When asked directly, participant 3 thought the question itself was interesting as he never thought about it before, but he assumed that he probably has some emotional ties to some of his characters ²⁷². Participant 2 also reacted sceptically at first because he said he knows how to separate the real-world from the gaming-world, but after a while also stated that in RPGs, he does have emotional attachments to his characters ²⁷³. In the end there were no clear indications how an emotional attachment actively influences the purchasing decisions for skins.

11.5 Extrinsic Influences

The cluster of extrinsic influences was split into 5 subcategories. Some of those factors are social and thus resemble the subcategories of the Self-Expression cluster. But where previously player interaction was a subcategory in which the influence of the internal desire to be noticed by other players and the possibility to interact with them served as a motivator to buy certain skins, in this cluster it is examined how the level of player-interaction or other game-inherent factors influence the player's willingness to purchase skins, which can be seen as an external influence on the player. Additionally, game-inherent and company-centred motivators are examined.

Online and Offline Communities

As was mentioned in a previous chapter, playing in a relationship can influence the purchasing decisions for certain skins, as sexuality can play a more central role, for example ²⁷⁴. Generally, real-life friends can also have a certain influence on gamers, but only to a limited degree. Seemingly though, the closer the relationship between two people, the more influence they have. In this regard, participant 1 mentioned her boyfriend, whom she plays with as well as her sister, whose

²⁷² Interview 3 - #01:47:17-5#

²⁷³ Interview 2 - #00:39:57-4# + #00:40:04-6# + #00:42:03-6# + #00:43:25-3#

²⁷⁴ Interview 2 - #00:46:05-6#

purchasing decisions of a certain skin might lead to her buying the same one ²⁷⁵. This partly rests upon the factor of the "team synergies" in League of Legends, which will be explained in the next chapter. Being able to talk about skins and show them to other people in real-life is also seen as positive, although not excessively done by any of the participants ²⁷⁶ ²⁷⁷. But even in those cases, it seems to be the case for all participants that skins are primarily bought because of intrinsic motivations. Thus, real-life friends and relations can act as a motivator but are never the sole reason for a skin purchase. But participant 3 also stated that although online friends usually have a limited influence, this is only the case as long as there is also an offline community of friends available. In cases, where the community of friends is strictly online or the more this online community is valued, the more likely a gamer is to buy skins. In his example, during a time where his social interactions where limited due to a variety of reasons, having friends online became more important and he was willing to spend more money ²⁷⁸.

Team Synergies

As became apparent in a previous topic already, skin exclusivity is seen as a positive factor, if said exclusivity doesn't stem from a high price ²⁷⁹. But in general, the rarity of a skin is not necessarily seen as an important factor. On the contrary, both interviewees who play League of Legends underlined the fact that having a skin from the same series in a team is regarded as highly positive ^{280 281}. Participant 2, for example, said that having the same skins would even motivate him to wear skins he doesn't like anymore ²⁸². Interviewee 1 also stated that she is willing to switch to a less-liked champion if this allows her to have a matching skin with her supporting player ²⁸³. The fact of Team Synergies seems to be a very League of Legends-specific factor and might only be replicable for a limited range of games.

Level of Player-Interaction

The willingness to purchase skins is dependent upon the respective game being played ²⁸⁴. There are several game-related factors influencing this willingness. Participant 1 doesn't have any statements supporting this view, but both

²⁷⁵ Interview 1 - #00:43:57-5# + #00:46:24-1# + #00:44:20-7#

²⁷⁶ Interview 1 - #00:46:24-1#

²⁷⁷ Interview 3 - #01:27:27-5# + #01:37:40-6#

²⁷⁸ Interview 3 - #01:42:24-7# + #01:44:15-4# + #02:14:58-5#

²⁷⁹ Interview 1 - #00:52:12-5#

²⁸⁰ Interview 1 - #00:41:25-1# + #00:41:39-1# + #00:41:47-3#

²⁸¹ Interview 2 - #01:09:33-0#

²⁸² Interview 2 - #01:09:33-0#

²⁸³ Interview 1 - #00:42:26-6#

²⁸⁴ Interview 3 - #00:25:39-4#

participants that play role-playing games or generally games with a third person view, stated that the more player-to-player interaction a game has or the more this interaction is valued as part of the game, the more important it becomes to be able to customize their character ²⁸⁵ ²⁸⁶. Vice versa, the more the player is able to customize their avatar, the more interesting skins become 287 288.

Long Playtime

In the way that finding a skin optically-pleasing is a necessity, having the expectation to continually play the game for a long time in the future is also seen as a must ²⁸⁹ ²⁹⁰ ²⁹¹. Thus, games should have an indefinite playtime, which especially in single-player games can pose several issues. For example, Assassins Creed Odyssey is a strictly single-player game that offers the option to buy skins. When connected to the internet, new missions are regularly made available to the players to give the impression of an indefinite game. But since many gamers found these missions to be too repetitive, this technique did not lead to the anticipated results. As participant 2 put it, they were simply lacking content to bind the player on a long-term basis which is one of the reasons why he didn't consider buying skins for the game ²⁹².

Supporting the Company

Saying thank you to the developers of a game and supporting them in the hopes of more content in the future is another motivator in the purchase of skins ²⁹³ ²⁹⁴. Participant 3 mentioned that based on this he has also bought skins that he never wanted to wear, which is also one of the motivations he has to spend money on skins in single player games ²⁹⁵. But just like how the positive reputation of a company can serve as a motivator, companies that fail to deliver on agreements or promises made to the players will get punished accordingly, just like the previous example of Star Wars Battlefront showed ^{296 297}. Another example of this relates to participant 3. When the makers of Fortnite re-released the beta skins which he had bought, it led him to delete the game. Participant 2, for example, shuns Ubisoft as

²⁸⁵ Interview 3 - #00:55:04-2#

²⁸⁶ Interview 2 - #00:37:29-4#

²⁸⁷ Interview 3 - #00:45:59-0#

²⁸⁸ Interview 2 - #01:42:10-4# + #01:43:12-0# ²⁸⁹ Interview 1 - #01:40:47-0# + #01:51:47-4#

²⁹⁰ Interview 2 - #00:55:57-1#

²⁹¹ Interview 3 - #00:03:38-4# + #00:26:29-1# 292 Interview 2 - #00:55:57-1#

²⁹³ Interview 2 - #00:14:03-8#

²⁹⁴ Interview 3 - #00:32:58-4# + #00:32:58-4# + #01:35:16-6# + #02:14:58-5#

²⁹⁵ Interview 3 - #01:11:58-0#

²⁹⁶ Interview 2 - #00:10:08-5# + #00:17:39-1#

²⁹⁷ Interview 3 - #00:30:00-0# + #00:31:54-0# + #00:32:21-7#

a company in general, as his opinion is that they don't show love to their games but uses them as cash-cows ²⁹⁸ ²⁹⁹.

11.6 Intrinsic / Individual Factors

This cluster was separated into 3 subcategories. It includes factors that change based on the intrinsic motivations and interests of the respective person playing a game. Some of these factors might be closely related to the individual person making the statement but it's also possible that some of these factors hold true for most gamers. The subordinate overlap between the following categories is that gaming companies mostly have little to no influence on the respective factors. For example, if a person doesn't have enough money to spend on decorative items in a game, the company can't do much to motivate the purchase of skins.

The Financial Situation

Having a stable financial situation was crucial to all 3 participants. Participant 2 said that during his time as a student he may have bought 2 or 3 skins total ³⁰⁰. But once he started working, that amount increased to around $100 \in$ per year on League of Legends alone ³⁰¹. Interviewees 1 and 3 also said that they only began to buy skins at the time they started making their own money and wouldn't do so if they found themselves in a situation with limited financial means ^{302 303}.

Nostalgia

Nostalgia was mentioned by two of the participants as an influence on their purchasing decisions. Interviewee 2 mentioned an arcade skin in League of Legends that he felt was interesting because it felt familiar and reminded him of the first games he played ³⁰⁴. For participant 3, nostalgia is in fact one of the most important factors for his decision-making process. He mentioned several examples in different games, like the Atelier franchise or Heroes of the Storm, where nostalgia was the primary reason in certain skin purchases ³⁰⁵. He further elaborates, that nostalgia also drives him to buy skins in single player games ³⁰⁶.

²⁹⁸ Interview 2 - #01:00:13-8#

²⁹⁹ Interview 3 - #00:30:00-0# + #00:31:54-0#

³⁰⁰ Interview 3 - #02:15:54-4#

³⁰¹ Interview 3 - #00:14:03-8#

³⁰² Interview 1 - #00:14:39-0# + #00:14:50-7#

³⁰³ Interview 3 - #02:14:58-5#

³⁰⁴ Interview 2 - #01:09:33-0#

³⁰⁵ Interview 3 - #00:19:50-4# + #00:21:43-6# + #00:23:20-6# + #00:35:29-4# + #02:04:13-9#

³⁰⁶ Interview 3 - #01:11:58-0#

But he also clarified that for him, even having a factor of nostalgia isn't enough. He said that he also needs to be overwhelmed by the look of a skin to be willing to spend money for it ³⁰⁷. Participant 1 didn't mention nostalgia which might be partly due to the nature of the skins in League of Legends but also partly because she is 21 years old, whereas the other participants are in their thirties.

Collectability

Collectability as a motivator was already mentioned in the introduction to this cluster. For two of the participants completing a collection was seen as very interesting, whereas participant 3 said he usually only needs 1 skin per character. This mainly refers to the fact that he doesn't rotate his skins, but if a new skin is more interesting to him, he will buy it as a replacement because of aesthetic reasons and not to complete the collection ³⁰⁸. Participant 3 stated that especially in RPGs, he aims towards completing collections ³⁰⁹. Interviewee 1 also had an interesting story about completing a collection. In League of Legends there are multiple events every year that feature unique skins that can only be bought with a special currency that is usually tied with a season- or battle-pass. Since she missed one of the events, she also wasn't able to buy the event-skins for her favourite champion. When an ultimate skin, which is the most expensive version of a skin, was later released for that champion she said that because she now wasn't able to complete her collection that skin was too expensive for her, but if she hadn't missed the event she would have bought it ³¹⁰.

Economic Rationale

None of the participants mentioned the need or the interest to be able to buy and sell skins on a player-to-player basis by themselves. When specifically asked if they would appreciate having that option, the opinions slightly diverged. Participant 3 said that he never thought about this before but felt that it could disrupt the flow of the game ³¹¹. Participant 1 said that she would like to have the option to sell skins that she doesn't use and to be able to buy the previously mentioned event skin that she missed ³¹². But in general, the option isn't too interesting to her and she also felt like the way the League of Legends economy works at the moment is good, as it is neither possible to make money nor lose big amounts ³¹³. Participant

³⁰⁷ Interview 3 - #01:11:58-0#

³⁰⁸ Interview 2 - #01:06:36-5# ³⁰⁹ Interview 3 - #01:06:36-5#

³¹⁰ Interview 1 - #01:00:05-8# + #01:02:41-6# + #01:03:27-8# + #01:37:27-9#

³¹¹ Interview 3 - #00:42:17-8#

³¹² Interview 1 - #01:24:15-8#

³¹³ Interview 1 - #01:26:57-0# + #01:29:46-7#

2 was the most inclined to the idea since he too possesses a range of skins he doesn't use and would like to have the option to sell on a marketplace ³¹⁴. But he also stated that he would prefer the marketplace to work on an exchange-basis, where skins can be Exchanged for another skin rather than the usage of real money ³¹⁵. But he and participant 1 also agreed that implementing a marketplace in League of Legends would likely diminish the amount of free skins the players get ³¹⁶ ³¹⁷. Summarized, implementing a player-to-player marketplace is not necessarily seen as negative, but also isn't something the players desire. At the same time, having a marketplace carries with it certain risks that need to be considered.

Skin-Centred Factors

The skin-centred factors can be seen as an inductively generated cluster. Although they could partly be categorized as individual or intrinsic factors, the players gave a multitude of matching complimentary statements which shows the perceived importance of this topic to all the interviewees and lead to their inclusion as a separate cluster. Additionally, the individual cluster was defined by the gamingcompanies having a limited influence on the respective factors, which is not true for the following subcategories. While it could be argued that the perception of skins is very subjective, Riot games recently gave some insights into the reception of their skins by League of Legend players around the world and mentioned that there are differences based on the respective regions of the players but also that there were some skins that were universally accepted ³¹⁸. Without going too deep into the psychology of aesthetic perception, it seems to be the case that it's not only based on the individual conceptions of players, but is, for example, also tied to the culture of a person and more. There are also several factors that were already broached on in previous topics, like skin prestige. But where skin prestige was previously considered from the perspective of the player, in this cluster the factors influencing the purchasing decisions are centred around the skin itself and its internal characteristics.

Artwork and Aesthetics

³¹⁴ Interview 2 - #01:15:23-2# +

³¹⁵ Interview 2 - #01:19:49-7# +

³¹⁶ Interview 1 - #01:33:05-1#

³¹⁷ Interview 2 - #01:16:10-5#

³¹⁸ League of Legends - Skins & Events in Season 2020 s

As was already identifiable in several of the previous clusters, the aesthetics of a skin is the most important factor that influences the purchasing decision of players. It seems to be the case that finding a skin optically pleasing is a definite prerequisite that needs to be met in all cases, at least judging by the statements of the participants ³¹⁹ ³²⁰ ³²¹. Participant 1 also specified that to her having an aesthetically pleasing look is a lot more important than looking cool ³²². The artwork of the skin is also seen as particularly important ³²³. Participant 2 even said that at least in League of Legends, the artwork is 80% of the importance, while the ingame design is only 20%, which is again due to the nature of League of Legends, where the characters are depicted quite small ³²⁴.

Enrichment of Gameplay Experience

Being able to use skins is generally seen as a positive add-on to the gameplay experience ^{325 326}. This is also why skins that introduce new elements or change the status quo of a game are generally seen as especially interesting, like a newly designed attacks, special weapons, new voice lines or unique pieces of clothing ^{327 328 329}.

Skin Quality

As mentioned, this topic was broached in previous topics, but not examined as a skin-inherent factor. The participants felt like skins that can be bought aren't prestigious but skins that can only be earned through achievements are, which also means that a high price doesn't make a skin more desirable ³³⁰. But skins that are expensive often, at least in League of Legends, are seen as more desirable, since they also have a higher quality ³³¹. Having a higher quality is directly connected to the previous topic of having enrichments to the gameplay experience. Thus, high quality skins are for example skins with better artwork, reworked attacks and redesigned skills ³³².

³¹⁹ Interview 1 - #00:29:12-3# + #00:33:16-4# + #00:52:46-8# + #01:42:18-0# + #01:50:44-8#

³²⁰ Interview 2 - #01:39:14-8# + #01:43:35-4#

³²¹ Interview 3 - #00:19:50-4# + #00:21:43-6# + #00:26:29-1# + #00:33:48-3#

³²² Interview 1 - #01:11:58-0#

³²³ Interview 1 - #00:24:14-5#

³²⁴ Interview 2 - #00:06:59-9# + #01:09:33-0#

³²⁵ Interview 1 - #00:30:18-2#

³²⁶ Interview 3 - #00:24:48-1# + #00:33:48-3#

³²⁷ Interview 1 - #00:30:18-2# + #00:30:42-1# + #00:33:16-4# + #00:34:21-8# + #00:17:06-3#

³²⁸ Interview 3 - #01:11:58-0#

³²⁹ Interview 2 - #01:09:33-0#

³³⁰ Interview 1 - #00:52:12-5# ³³¹ Interview 1 - #01:44:40-6#

³³² Interview 1 - #01:17:37-4# + #01:18:29-4#

Marketing

As mentioned previously, participant 1 was persuaded to like the League of Legends – Louis Vuitton collaboration after being sceptical of it in the beginning due to a range of accompanying marketing efforts ³³³. Additionally, in collaborations brand recognition can elicit a spill-over effect that can positively influence purchasing decisions ³³⁴.

11.7 Summary + Discussion

The interviews produced a range of rich and valuable insights into a player's decision-making process when buying decorative items for an online game, although having a limited generalizability due to the small sample size. To counter this. an additional quantitative survey will be conducted. While conducting the interviews, it became noticeable that there is a small range of factors that seems to be true for all participants, like the expectation to be playing the game for a long time in the future or a neutral to positive attitude towards the development company. But there is a wider range of factors that were only relevant for a selection of the participants. This reflects the results of the first quantitative survey, in which the majority of factors adapted from previous qualitative research was mainly rejected.

It remains to be seen how many of the factors generated through the interviews can be generalized. But one thing that became obvious during the interviews and is also considered a limitation of the first quantitative survey is the substantial influence the type of game has on the decision-making process of the gamers. It seems to be the case for example, that for games where player interaction and character customizability are high, the decision-making process is more complex. The players spend more time thinking about where and how they want to spend their money, are less likely to buy spontaneously and value their own skins and those of other people more. Thus, the following quantitative survey will be done on two specific games to analyse the strength of influence of the game-type. Furthermore, this makes a direct comparison between the finding of previous research and the finding from the interviews less pertinent, as some of the research was conducted only on players of a certain game while other was done with players

³³³ Interview 1 - #00:03:19-5#

³³⁴ Interview 1 - #00:03:19-5# + #01:42:58-7# + #01:43:27-9#

from different games, just like the interviews. Nevertheless, there was a range of factors that were validated to varying degrees.

When directly compared to the clusters of the factors adapted from previous research, the cluster of self-expression had the highest consensus. It featured self-expression, showing the ideal self, role-playing and the importance of aesthetics, which were all confirmed during the in-depth interviews. The factor of showing the true self could only be confirmed partly, while the factor of the importance of cultural references was rejected.

The second highest congruence was found in the cluster of the individual factors, although the majority of subcategories was only partly confirmed. This includes impulse buying, which is only prevalent in certain games, the satisfaction in buying, that was present but showed very limited influence on the decision-making process itself, and lastly that buying skins is a replacement for going out, which was partly confirmed by participant 3 during a certain part of his life. The only factor that was fully confirmed was the importance of the personal resources or being in a financially stable situation. The only factor that was fully rejected was the lack of self-torment, which was related to players buying virtual clothes rather than reallife clothes due to discontent with their look or bodies. When examining the cluster of building hierarchies, impressing others and wanting to be cool could be confirmed in the interviews, whereas the social status and the skin exclusivity seemed to be of limited relevance. Additionally, wanting to be superior and having factor of luxury were of little importance to the participants. а In the feeling of immersion cluster, enjoying to play the game was mentioned several times, whereas the emotional attachment to the avatar only seemed to have a very limited influence on the players, who were mainly not aware of these attachments prior to the interviews. Another factor that was not mentioned and had to be rejected was commitment to a virtual world, which is different to expecting to play the game for a long time, meaning a gamer can play a game for a few hours a week without necessarily having a high level of commitment. When examining the extrinsic influences, none of the factors could be approved or rejected unconditionally. While social influence can have an influence on purchasing-decisions, this is seemingly only true for very close offline friends or family. Building or supporting lasting friendships with an online community was also only approved in situations where the online community was of extremely high value to the player, like in situations of struggle or escapism into virtual worlds. Being impressed by others seemed to have the smallest impact, as during the

interviews it was only mentioned that a participant was impressed by the creative choices made by others, reflected by the ability to customize the avatar or combine pieces of equipment and not by the skins themselves. different Lastly, the cluster of economic rationale played no role in the decision-making process of the participants, although the implementation of a marketplace that uses an exchange-model was considered interesting yet risky. The low importance of an economic rationale in purchasing skins must be considered with high constraints, as none of the players actually played a game that included a player skin trade option. Another result of the interviews is the obvious influence of individual factors on the decision-making process. An example of how those individual interests can influence players differently is that although a high level of immersion seems to be a factor that is prevalent for all gamers, the subjective perception of what disrupts this immersion differs depending on the gamer. While one player might find bikini skins to be out of place in a game, other people might value their seductiveness without feeling a disruption in their level of immersion. The results of this survey also produced a range of novel factors: Sexuality, authenticity, team-synergies, nostalgia, collectability, the enrichment of the gameplay-experience, as well as a range of skin-centred factors like the skin quality, the importance of the artwork, and the positive effects of marketing and collaborations.

As mentioned previously, it remains to be seen to what degree these factors will be approved quantitatively. One of the questions that remains unanswered, for example, is whether the participants of the interview reflect the average gamer, as well as the question if a prototype-gamer even exists or if the gaming population is heterogeneous, which based on the sheer amount of gamers, as well as their agelessness, and the abundance of different gaming genres, seems to be likely. A clear limitation of the interviews conducted for this thesis is the fact that not gamers from all major genres of games were represented. Missing were for example representatives of the ego-shooter genre, which is unfortunate since the economy of Counter-Strike was explained in detail earlier. Coming back to the example of Counter-Strike, it becomes apparent that there must be differences between the sample of this interview and a proportion of CounterStrike players. As previously stated, the interviewees said that owning items that are expensive isn't considered prestigious and that, for example, 20€ for an Ultimate Skin in League of Legends were considered extremely pricey, whereas in Counter-Strike, some players are willing to spend thousands of dollars on certain skins. Whether this difference is

based in the ego-shooter genre itself or is specific to the game Counter-Strike cannot be answered. Trying to mitigate some of these limitations, the subsequent quantitative research will be split into two parts that will be given to players of a specific game from two different genres. This will allow for the examination of the influence the genre of a game has, without clarifying how much of that influence is based on the genre or in the respective game itself. This is a question that has to be answered by further research.

Based on the results of the interviews, a player's gender seems to only have a limited influence on the decision-making processes. While there were oftentimes differences in the opinions of the female participant, these seemed to usually be derived based on the fact that participant 1 only played League of Legends, whereas the other participants either also, or solely played role-playing games. While sexual desires only played a negligible role for the female participant, they also weren't prevalent for participant 3. And while participant 1 said that in League of Legends she only likes to play female characters, the reasons for that were congruent with the reasons participant 2 named for playing female characters regularly in games, like a higher level of detail and better designs in general. Thus, the influence of gender will be part of the analysis of the following survey, as well as the influence of the player's age.

Summarized, it can be said that there are factors that influence all gamers that purchase skins in online games, independent of their gender, age, and individual differences. But the characteristics of that influence–like the level of intensity, the perceived importance, and their subjective perception–can differ based on the previously mentioned elements. The same holds true for the influence the genre of a game has. While there are clearly distinguishable differences in the role of skins depending on a game's genre, there is also a range of universal truths that transcend these genre borders. At the same time, evidence suggests that even within the same genre there are differences in the perception of skins. Thus, while this work can serve as a guideline for game development companies, a close examination of the respective game-environment, as well as the target-group, is necessary.

Following the results of the analysis, 3 inductively generated hypotheses are formulated, which are going to get tested in the following quantitative survey:

- Hypothesis 1: The respective game played has a significant influence on the decision-making process on the players.

61

- Hypothesis 2: The gender has a limited influence on the decision-making process of the players.
- Hypothesis 3: Age has a significant influence on the decision-making process of the players.

12 Quantitative Analysis

The second quantitative survey was split into two pieces. One survey was given out to players of League of Legends, which is a free-to-play multiplayer online battle arena game. The other survey was given to players of the free-to-play roleplaying game Guild Wars 2.

In the following analysis, firstly the general results of the two surveys will be briefly presented. Afterwards, in order to approve or reject the three hypotheses, the influence of the game's genre, the influence of the participants gender, and the influence of the age of the participants on the survey results will be analysed. To use the limited space effectively, only significant findings will be included, which are, in turn, limited to the parameters of the mean, variance and the correlation metrics mentioned in the topic of quantitative methods. An overview of all results can be found in appendix F1.

12.1. Sample

The two surveys were posted in the Reddit subforums of League of Legends and Guild Wars 2. For the League of Legends survey, a total of 300 participants took part, with 288 people finishing the survey. The remaining 12 people were excluded since they never spend real money on skins. For the Guild Wars 2 survey, a total of 397 people took part, with 347 people finishing it. The remaining 50 people also never spent real money on skins.

Gathering participants only through Reddit can be considered a limitation to the survey, as it is unclear to what extent this influences the results of the survey. It is possible that the average Reddit user is not a representation of the average Guild Wars 2 or League of Legends player, although it also remains unclear to which degree an average player of these games even exists. It was assumed that only people who have a certain passion for a game take part in the online discussion in the forums of Reddit, which should not be detrimental to the general results. Also, it should be kept in mind that this survey only included people who have

already bought skins in the past. There might be a difference in factors that motivate players who have bought skins before to do so again and factors that motivate players to do their first purchase. Economically speaking, this would be the separation between user acquisition and user retention. A study exploring the reasons that motivated gamers to make their first purchase might yield interesting results that could be compared to this study.

Out of the 288 people who completed the League of Legends survey, 226 participants or 78,7% identified as male, 58 or 20,2% identified as female and 3 people or 1,1% identified as diverse. For the age distribution, two people refrained from indicating their age. For the remaining 286 people, the age spans across 25 years, ranging from 14 to 39, while the average age is 21 years, the mode is situated at 20 years and the median at 22 years. The lower quartile is 19 years, and the upper quartile is 24 years. To illustrate the age distribution, a box plot will be used ³³⁵.



Figure 2: Boxplot for the Age of the League of Legends Survey Participants

The skewness towards a younger male audience might reflect the general composition of gamers, but since the majority of participants were collected from Reddit, the age distribution might simply be a representation of the average Reddit user.

The Guild Wars 2 survey was completed by 347 people, out of which 23 or 6,6% identified as of diverse gender, 236 or 68% as male, and 88 or 25,4% as female.

³³⁵ Byrne – Interpreting Quantitative Data p. 98 f.

When asked for their age, 5 people refrained from giving their age. The average age of participants as well as the median is 27, while the mode is 28. The age distribution is 43, ranging from 13 to 56. The lower quartile is 23 years, while the upper quartile is 30. Again, a box plot is used to show the dispersion of age.



Figure 3: Boxplot for the Age of the Guild Wars 2 Survey Participants

When compared to the League of Legends survey, the average age of Guild Wars 2 players is 6 years higher and the range of the age distribution is nearly twice as big. This is especially interesting when considering the fact that League of Legends was published in October 2009 and is thus 3 years older than Guild Wars 2, which was published in August 2012. Hence, Guild Wars 2 is seemingly more interesting to players from different ages due to its game inherent mechanics, whereas League of Legends seems to be more attractive for a younger audience.

12.2. Summary of Results of the League of Legends Survey

For the League of Legends survey, a total of 10 questions were completely approved and 9 partly approved, whereas 5 questions were completely rejected and 8 rejected in part. When analysing the different clusters, only the skin-centred cluster can be approved as a whole, with an average mean of 4,4. Additionally, the cluster of individual factors can be seen as partly approved with an average mean of 3,6, whereas the average means of all other clusters are situated in the non-expressive range between 2,5 and 3,5.

When taking a closer look at the results of the skin-centred factors, out of the five questions that form the cluster, four questions were completely approved, and one

was partly approved. With a mean of 4,86 the participants agreed that aesthetics is the most important factor when buying a skin, followed by wanting to look cool with a mean of 4,48. With a mean of 4,47 the participants also coincided with being willing to spend more money, if the skin features cool addons like new sounds, newly designed attacks and more. The League of Legends players also agreed, that having a skin can **enrich the gameplay experience** with a mean of 4,39. The only question out of the skin-centred cluster that was only partly approved was asking about the opinion of the players about the recent collaboration between League of Legends and Louis Vuitton, that reached a mean of 3,63. The differing opinions of the players was also confirmed by the relatively high variance of 1,5, whereas the variances for the previous questions were situated between 0,2 and 0,9 and thus showed a high to moderate consensus in opinions. When analysing the other questions that were completely agreed with, with a mean of 4,47 and a relatively low variance of 0,837, players also coincided that being in a **financially stable** position is a must when buying skins. The question if games need to be free for players to spend money could not be approved or rejected with a mean of 3,9, but having a subscription fee was seen as having a very negative effect on the willingness to purchase skins with a mean of 4,21, although the participants showed a fairly high disparity in their opinions with a variance of close to 1,3. Another factor that was approved but showed a relatively high disparity with a variance of 1,2 was the need to be expecting a long playtime for a game before buying skins, with a mean of 4,16. But there is seemingly also a group of players who are willing to purchase skins also for games, where they don't expect a long playtime. The previous results are very similar to the question, whether or not skins can also have a **negative effect** on the gaming-experience, which was approved with a mean of 4,15 and a variance of 1,3. The last factor that was only just fully approved with a mean of 4,02 and a relatively high variance of 1,4 was the importance of the artwork in the decision-making process. This high variance suggests once again that there is also a group of players who are only marginally influenced by the artwork during their decision-making process. Sorted by ascending means, these following factors were partly approved by the survey participants: With a mean of 3,86, survey participants generally showed their partial agreement when asked, if they think that skins that can only be earned through **achievements** are more prestigious than those that can be bought, although the very high variance of 2 signifies strongly varying opinions within the group of League of Legend players. A positive attitude towards comedic skins was partly approved with a mean of 3,8 and a variance of 1,3. A mean of 3,78

suggests that having a higher level of character customizability would also lead to a higher willingness to spend money for most players. Players in turn felt that the implementation of skin marketplace can have negative effects on the game with a mean of 3,77 and a variance of 1,6. Having the same skins as other players from the same team can be considered partly approved with a mean of 3,72. Following are the factors of the prestigiousness of early stage skins (mean = 3,69), the fact that a higher emotional attachment to the character leads to a higher willingness to spend money on skins (mean = 3,65) and lastly, having the trade skins between players with а mean option to of 3.53. Of the completely rejected factors, League players felt that flirting with other players was the least important factor to them with a mean of only 1,47. The variance of 1 also only showed slight deviations from this. The second least important factor was wanting to **roleplay** with a character, which resulted in a mean of 1,76. But the high variance of 1,5 suggests that there is a group of people who do enjoy roleplaying to some degree and use skins for that purpose. For the next question, the variance of 1,4 again suggests a guite high deviation from the general trend, which is that players with a mean of 1,78 don't feel that it's important that other players are jealous of the skins they own. Having the option to trade skins between players could only be partly approved with a mean of 3,53, but players definitely agreed that they would not like the transactions on that marketplace to be done with real money, which received a score of 1,84 and a variance of 1,1. The question if players are motivated to buy skins, so other players are more likely to recognize them, was rejected with a mean of 1,85, but had a relatively high variance of 1,3, which suggests that once again some players are influenced by this factor to at least some degree. No other questions could be completely rejected.

Lastly, when only analysing the variance, League of Legends players had the most ambiguous opinions about the question if they like to buy skins that are **sexy**, with a variance of 2,5 (mean = 2,86), and if **lore and story** influence their purchasing decisions with a variance of 2,4 (mean = 3,3).

12.3. Summary of Results of the Guild Wars 2 Survey

For the Guild Wars 2 survey, 10 questions were completely approved, 10 were partly approved and 5 questions were completely rejected, while 7 questions were partly rejected. When analysing the various clusters, the individual factors as well as the skin-centred factors were partly approved with average means of 3,7, while
the clusters of feelings of immersion and the game-centred factors scored an average mean of 3,6. The remaining clusters showed no meaningful tendencies with average means between 2,8 and 3,1. The high average mean for the individual cluster is limited by the fact that it only consists of 3 questions, out of which only 1 got completely approved, whereas the other 2 show no clear tendency. The completely approved question received the second highest approval rate in the survey with a mean of 4,59 and a variance of 0,6 when asked about the importance of **financial stability**.

Out of the 5 questions for the skin-centred factors, one was completely approved, 3 were partly approved and one was partly rejected. Question 46, which was completely approved, received the highest approval rate in the whole survey, when players were asked if they wanted a skin to be **aesthetically pleasing**, which reached a mean of 4,84 with a variance of only 0,18. The three questions that were partly approved asked firstly, if skins can **enrich the gameplay experience**, which was partly approved with a mean of 3,88. Secondly, if players are willing to spend more money on a skin with **cool additional features**, which received a mean of 3,86 and lastly, if looking cool is an important factor, which was partly approved with a mean of 3,67.

When looking at the results for the individual questions, situated at the third place with a mean of 4,48 and a variance of 0,6 is the question, if a higher level of character customizability has a positive influence on the player's willingness to spend money on skins. Guild Wars 2 players also agree, that if a gaming company has a negative reputation, this would have a negative on their eagerness to purchase decorative items with a mean of 4,43, although the variance of 1 also indicates some outliers in this regard. The necessity of the expectation to play the game for a long time in the future was approved with a mean of 4,41 and a relatively low variance of 0,8. The question if skins can also have a negative **impact** on the gaming experience was approved with the mean of 4,12, which is equal to the results from the question, if players use skins to represent their ideas of how a character or object should ideally look, although the variance of the first question with a value of 1,3 is slightly higher than 1,1 for the latter. Having a subscription fee was mainly seen as having a negative impact with a mean of 4,11, but with a variance of 1,3 again showed a disparity in the opinions of the participants. Situated in the last place of the completely approved factors is the question about the **importance of the artwork** when purchasing a skin, which received a mean of 4,04 and again scored a relatively high variance of 1,3.

When examining the only partly approved questions, liking to get positive reactions by others reached a mean of 3,97 and was thus at the very border of being completely approved. With a mean of 3,81 Guild Wars 2 players also partly agreed, that they will give positive feedback to other players if they like the skin or creative choices made by that player. The survey participants also agreed with a mean of 3,9 that they are also willing to spend money on games that they paid money for. The majority of players also feel at least partly emotionally attached to their characters, as this statement received a mean of 3,75. Liking to play attractive characters cumulated in a mean of 3,67, followed. Most players also buy skins with the intention to show their **support to ArenaNET**, the developing company behind Guild Wars 2, which is indicated by the mean of 3,62, although a high variance of 2 shows diverging opinions about this. The last factor that can be seen as partly approved was question 42, which asked if the option to trade skins between players is seen as positive, which received a mean of 3,52. When examining the completely rejected questions, the participants answered that flirting with other players was of the least importance to them, with a mean of 1,34 and a low variance of 0,6. When asked if Guild Wars players would appreciate the implementation of a player-to-player skin marketplace, the results indicated a partial agreement with a value of 3,52. But the players agreed in their opinion, that if such a marketplace was to be implemented, it should not use a real currency as means of exchange, as it reached a mean of 1,73 and was thus the second most disproved question. Although the variance of 1,3 shows that there are deviations from the public opinion, players still agreed that a high price doesn't make a skin more prestigious with a mean of 1,78. With a variance of 1,4 Guild Wars players showed an even higher variety of opinions when asked if they are motivated by the fact that other players might get **jealous** of their skins with a mean of 1,82. The recognition value is at the last place of the completely rejected factors with a mean of 1,98 and a variance of 1,3. When looking at the variance, only 2 questions surpassed a value of 2. Using characters to show a different side reached a variance of 2,1 (mean = 2,37), which is equal to the results of the question, whether a higher emotional attachment leads to a higher likelihood to buy skins (mean = 3,65).

12.4. Testing Hypothesis 1 – The Comparison of the Survey

Results

In the comparison of the two surveys, a selection of the most relevant results will be discussed. For further insights, the appendix chapter F1. can be consulted.

As was mentioned in the methodological part, the Mann-Whitney U test was used to calculate the effect strength of the influence the game has on the survey results. The effect strength is only calculated in cases where the game has a significant influence on the results. Regarding this thesis, the game showed to have a significant influence on the participants in the results of 35 questions, which is in 61,4% of total cases. Thus, it can already be stated that the genre of a game has a significant influence in most cases which signifies that hypothesis 1 can be seen as approved.

The effect strength can be categorized in weak (r < 0,1), medium (0,1 \leq r < 0,5) and strong (r > 0,5) effect strengths ³³⁶. Although a significant influence is prevalent in the majority of cases, none of the r values exceed the factor of 0,5, while simultaneously only falling below the value of 0,1 in 2 cases. When comparing whole clusters, the cluster of economic rationale showed no difference in the results, although this is limited by the fact that it only consists of 3 questions. The skin-centred cluster on the other hand shows the highest average effect strength of 0,29, followed with some distance by the extrinsic influences with a value of 0,17. For the skin-centred question, only one out of the 5 questions showed no difference in the perception by the two different groups, which was the question about the importance of finding a skin **aesthetically pleasing**, which received a mean of 4,86 for League of Legends players and 4,84 for Guild Wars 2 players. Subsequently, the highest value and thus the factor which is influenced the most by the respective game being played, can be found in guestion 50, with a r value of 0,48. With this question League of Legends players were asked if they enjoyed the Louis Vuitton collaboration and Guild Wars 2 players were asked if they would be interested in a skin collaboration with a brand they know, which is also part of the skin-centred cluster. The question reached a mean of 3,63 for League players and 2,25 for Guild Wars 2 players. This difference might stem from the fact that League of Legends players already had a practical example they could judge, whereas Guild Wars players did not. This theory is supported when compared to the statements participant 1 made during her interview, who also mentioned that she was sceptical at first but was persuaded in the end ³³⁷. Thus, it might also be possible to also change the minds of Guild Wars players, although a certain scepticism is prevalent. The second biggest effect strength with a value of 0,43 can be found in the question if players enjoy using skins with a **comedic factor**,

³³⁶ Cohen – A Power Primer p. 156

³³⁷ Participant 1 - #00:03:19-5#

which was partly approved by League players with a mean of 3,8, and showed neutral results with a negative tendency for Guild Wars players with a mean of 2,66. This might partly be based in the selection of skins that are available for the respective games, as well as the nature and role of the characters. These findings are supported by the difference in opinion when players were asked if they felt that it is important that skins are **authentic** and fit into the gaming environment. The mean of 2,5 showed that League players mainly give this factor a low priority, while the votes of Guild Wars players resulted in a mean of 3,45. While showing strong tendencies to either rejection and approval, both these values are situated in the non-meaningful range around the neutral value of 3, but the effect strength of 0,34 still signals a significant difference in the perceived importance for the two samples. Additionally, the identically high variance of 1,7 shows some strong deviations in the opinion of the participants, which was also broached during the qualitative analysis, with the Pug'Maw and bikini skins. Furthermore, Guild Wars players felt that looking like other members of the team, which reached a mean of 2,8, was a lot less favourable than what League players thought, who accumulated a mean of 3,72, which resulted in an effect strength of 0,41. This difference might stem from the fact that League of Legends is primarily a 5 versus 5, player versus playercentred game, whereas Guild Wars 2 can be played in different modes with varying team sizes and also includes player versus environment elements.

The fourth biggest effect strength of 0,4 can be found in the evaluation of how important **looking cool** is to the players, which reached a mean of 4,48 for League players, which is the second highest mean of all questions, whereas it only reached a mean of 3,67 for Guild Wars players. When compared to statements given in the interviews, this difference in perception might be related to the fact that it is impossible to combine or customize the composition of a skin in League of Legends, which diminishes the importance of creativity when making certain choices. This theory is partly supported by the results of question 5, which asked if players like to get positive reactions for the **creative choices** they made, which resulted in a mean of 3,97 for Guild Wars players and 3,13 for League of Legend players. The effect strength of 0,32 shows that the factor of creativity is significantly more important for Guild Wars players.

As mentioned in the previous summaries, a **subscription model** is seen as having a negative influence on the willingness to spend money for skins by both parties. But when asked if **games need to be free** in order to buy skins, an effect strength of 0,3 showed significant differences in the results. Guild Wars players agreed with a mean of 3,9 that games don't need to be free for them to buy skins, whereas League players only cumulated in a mean of 3,09. This increased willingness in spending money might be based in the fact that Guild Wars 2 is a complex openworld game with a multitude of areas that can be explored, whereas League of Legends is a battle arena based game with limited map sizes and game modes. This is also represented by the fact that Guild Wars 2 offers a range of paid additional content to the game, which is not available in League of Legends. That said difference isn't based on an increased thriftiness of League players is supported by the results of question 49, where players were asked if they were willing to spend more money for skins that have a range of **additional features**, like new sounds or attack animations. While League players show a high willingness to spend more money with a mean of 3,86 which in turn resulted in an effect strength of 0,31.

Summarized it can be said that the type of game played has a significant influence on the results of the majority of questions, although there are distinct differences in the respective clusters. The origins of these differences are either based in the different user groups playing the game or in the different game inherent characteristics and mechanics. These questions cannot be conclusively answered without further research. Hypothesis 1 assumed that the respective game played by the participants has a significant influence on the decision-making process, which can be seen as approved.

12.5. Testing Hypothesis 2 - The Influence of Gender in the League of Legends Survey

When analysing the influence of the gender on the survey results, the Mann-Whitney U test showed significant differences in the results of a total of 12 questions. When comparing the effect strengths of the different clusters, only the cluster of self-expression and ideals obtained an average r value higher than 0,1. Its r value of 0,14 translates to a medium effect strength. The self-expression and ideals cluster consists of a total of 10 questions, out of which 7 showed significant differences between the two gender groups. The highest r value of 0,29 is found in question 19, which asked players if they like to play with what they feel are **attractive characters**. This was favoured by the female players with a mean of 4,16, which is significantly higher than the mean of 3,14 for the male players. The female participants also showed a higher approval of the fact that they **see**

themselves in the characters they play with a mean of 3,33, compared to the mean of only 2,44 for male players, which resulted in an r value of 0,25. Consequently, the approval rate of using characters to display their ideal self was also higher for the females with a mean of 2,79 compared to a mean of 2,05. Although the effect strength is 0,21, it also has to be noted, that judging by the means, this factor generally speaking is not very important to either one of the groups, just like the factor of using characters in games to explore who they can **become**. While the male participants here reached a mean of 2,17, the female participant's mean is significantly higher with a mean of 2,9. Again, although the r value of 0,2 shows a significant difference between the two groups with a medium strength, no expressive statement can be given for the female players in the general, while the male participants partly rejected this factor. The last question that showed a significant effect of the gender on the survey results, asked if players like to buy skins they find sexy. Although neither one of the groups rejected nor approved this factor, interestingly it was once again favoured by the female participants with a mean of 3,28, compared to a mean of 2,76. This is interesting, as it opposes the stereotype that games appeal to the male fantasy, as they seemingly also partly appeal to female fantasies ³³⁸. Following the self-expression category, the cluster of feelings of immersion ensued with the second-highest average r value of 0,06, followed by the economic rationale cluster with an average value of 0,03, the extrinsic influences cluster with an average value of 0,02 and lastly the social-hierarchies and interaction cluster with an average r value of only 0,01, which can all be seen as having only weak effect strengths on average. Thus, a cluster analysis shows limited practicability. When examining the individual factors, question 30 reached an effect strength of 0,29, when participants were asked if they feel emotionally attached to their characters. This was primarily supported by females with a mean of 4,03, whereas the male mean only reached a value of 2,98. Subsequently, females stated that they are more likely to spend **money** on the characters they feel emotionally attached to with an r value of 0,18, which was asked in question 31. Females showed their complete agreement with a mean of 4,14, whereas males only partly agreed with this statement with a mean of 3,51. Females participants also completely agreed that having the same skins as their teammates is seen as more positive with a mean of 4,1, compared to a mean of 3,62 for the males, which resulted in an r value of 0,17.

³³⁸ Sollee for Bustle - Feminists Try Playing Grand Theft Auto

Ultimately, although there is a range of questions where the male participants showed a higher level of agreement through the mean, when conducting the Mann-Whitney U test, none of them turned out to be statistically significant. This could either mean that women are generally more likely to spend money on decorative elements or are more suggestible. But it could also imply, that the female participants are more reflected and aware of the factors that influence their purchasing decisions. Unfortunately, these questions cannot be answered through the results of this survey. Additionally, it should also be noted that the average variance in the two groups was the same with a value of 1,7. The goal is to identify characteristics based on which the players can be categorized in groups with similar or equal opinions, which would in turn be represented through a low variance. As the variance of 1,7 is relatively high, it becomes obvious that further separations than solely the gender are necessary.

Summarized, 12 questions out of 57 showed significant differences in the replies for the two genders that were analysed, with a medium average effect strength of 0,19. Hypothesis 2 assumed that the gender of participants has a limited influence on the decision-making process. Regarding the results for the League of Legend survey, it might be more appropriate to say that the gender in the majority of cases has no influence on the decision-making process, and in the few instances where significant differences were found, the effect strength turned out to be of medium strength. It also must be noted, that due to the limited sample size of 58 females, the results of this analysis do not have а high validity.

12.6. Testing Hypothesis 2 - The Influence of Gender in the GuildWars 2 Survey

When analysing the influence of the gender on the Guild Wars 2 survey results, significant differences were prevalent in the results of a total of 17 questions. The only cluster that reached an average r value of at least 0,1 was the cluster combining questions about the individual factors that influence the purchasing decisions, which is limited by the fact that it only consists of 3 questions. The only cluster that showed no statistically significant difference in the results of the participants was the economic rationale cluster. The remaining clusters showed verv weak average effect strengths between 0.02 and 0.09. The two questions in the individual factors cluster, which showed significant differences in their results, asked participants firstly, if they think being in a financially stable position is a must when purchasing skins. This was favoured by the male participants with a mean of 4,67 compared to the female participants with a mean of 4,42. This discrepancy resulted in an r value of 0,13. This would support the previous hypothesis, that females are generally more likely to spend money on skins or assign skins a greater importance. The second question asked about the perceived influence of feelings of **nostalgia** on the purchasing motivations, which based on the mean of 3,4 of the males compared to a mean of 2,92 for the female participants signals, that the female participants are less influenced by feelings of nostalgia, although this factor seemingly only plays a minor role for both groups. Albeit not having a high average r value as a whole cluster, there are also prominent differences in how the players of the two genders express and identify themselves with their characters in Guild Wars 2, which became apparent through the results of questions 15 to 18. Although the means of the female participants for these questions are situated between the minimum of 2,73 and the maximum of 3,33 and thus don't show a meaningful tendency towards rejection or approval, there are still significant differences in the results, as the male participants showed considerably lower approvement rates for these questions. For question 15, which asked if players see themselves in their characters, these differences resulted in an effect strength of 0,14. For question 16, which asked if characters are used to **display the ideal self** of the players, it resulted in an r value of 0,17. For question 17, which asked if characters are means to **show a different side** of the players, the r value was 0,14 and lastly, for question 18, which asked if characters are used to explore who the player can become, it reached an effect strength of 0,2. These findings are limited by the fact that, like previously mentioned, the female participants as a whole did not approve any of these questions. But it shows that within the group of female players, there is a subgroup that is either significantly bigger, or shows a significantly greater interest in the previously mentioned factors than when directly compared to the male participants.

When examining individual questions, the biggest disparity in sentiments was found in question 30, which asked about the **emotional attachment** to the avatar. The female participants showed a significantly higher affection to the avatars with an r value of 0,27 and a mean of 4,19, whereas the males only cumulated a mean of 3,5. Interestingly, there was no statistically significant difference in the opinion whether a high emotional attachment leads to a **higher willingness to spend money**, as both parties showed no clear tendency with a mean of 3,19 for the males and 3,36 for the females. Females again showed a higher level of concurrence, when asked if having **problems in real-life** makes the gaming world

become more important. With a mean of 3,69 this question can be seen as partly approved by females, whereas no clear tendency was discernible for the male players with a mean of 3,03. This gap in opinion resulted in the second biggest effect strength in the Guild Wars 2 survey, with a value of 0,22. The last question with an r value of at least 0,2 emerged in the difference of opinions whether or not players like skins that are related to their cultural background. This question was partly rejected by male participants with a mean of 2,47 and although females are significantly more likely to buy skins related to their culture, the mean of 3,03 shows no general level of agreement within the group of the female participants. When asked if a higher character customizability has a positive influence on the willingness to purchase skins, both parties showed complete agreement, with a mean of 4,38 for the male players and 4,66 for the female players. Although both parties completely agree that a higher customizability has a positive influence, females are significantly more positively affected by it, which is reflected through the r value of 0,19. Lastly, male players are more likely to buy skins to show their support to ArenaNET, the developing company behind Guild Wars 2, with a mean of 3,73 compared to a mean of 3,3, which resulted in an effect strength of 0,14. The male participants are also more likely to be negatively affected by a gaming company with a negative reputation with a mean of 4,48 compared to a mean of 4,24, which in turn resulted in an r value of 0,12.

Summarized, out of the 57 questions, 12 showed significant differences in the results between the two genders, which results in around 21% of all cases. The average effect strength for these 12 questions is 0,22 which results in a medium to weak average effect of the gender. Thus, hypothesis 2, which assumed that gender has a limited influence on the decision-making process, can be seen as approved. The relatively small number of 88 female participants again limits the validity of the results.

12.7. Testing Hypothesis 3 - The Influence of Age in the League of Legends Survey

To examine the influence of age on the responses, the survey participants are categorized in 3 groups, which represent adolescence, young adults and older adults. As previously mentioned, the age of the League of Legends participants is tightly centred around the mean of 21 years, with 50% of all participants being between the ages of 19 to 24, and a total range from 14 to 39 years, which led to

a disparity in the quantitative composition of the groups. Group 1 ranges from the age of 14 to 19, which is at the top end of the schooltime, and contains 85 participants. Group 2 ranges from 20 to 25, which could roughly represent an identification stage like university times or an apprenticeship and consists of 145 participants. Lastly, group 3 ranges from ages 26 till 39 and consists of 55 participants. While a change in the age compositions of the groups would balance out the quantitative disparity, it would also diminish the quality of the survey results. Ultimately, the small sample size, especially in group 3, can be regarded as a limitation to the quantitative analysis. When comparing group 1 and 2, only 2 questions showed significant differences in the responses from the survey participants with an average r value of 0,14. The comparison between group 2 and 3 showed significantly differing results for 3 questions with an average r value of 0,19. And lastly, statistically significant deviating results were calculated for 7 questions in the comparison between group 1 and 3, with an average r value of 0,21.

When examining the comparison between group 1 and 2, the two questions that showed significant differences in their replies show identical r values of 0,14. The first question, which is also the first question of the whole survey, asked if the survey participants buy skins so other people **see or notice** them. While this statement was partly rejected by the older group, no distinct assertion can be made about the results of the younger group with a mean of 2,61. Yet, the Mann-Whitney U test showed that younger people are still significantly more likely to be motivated by this factor. The same holds true for question 2, for which neither group's votes resulted in distinct outcomes. But with a mean of 3,47, the younger audience was once again significantly more likely to be motivated to buy skins that **attract more attention**, with a mean of 3,47 compared to a mean of 3,06.

In the comparison of group 2 and 3, the question 55 showed the highest discrepancy in its replies by far, with a mean for group 2 of 3,26 and for group 3 of 2,53. Although neither one of those means allows distinct statements about the general opinions, the r value of 0,24 again signals that the younger audience is significantly more likely to spend money on decorative items also for **paid for games**. Group 2 is also more likely to buy skins when the game's **lore and story-design** are well made, which is signalled by an r value of 0,17. Again, the means of both groups are situated around the neutral value of 3, with 3,42 for the younger players and 2,85 for the older players of Guild Wars 2. Lastly, the younger players are again significantly more likely to buy skins motivated by the intent to **show off**

in front of others with an effect strength of 0,16. The means for group 2 of 3,12 and for group 3 of 2,6 again don't allow any definite statements about the opinions within the group.

In the comparison between group 1 and group 3, within the social hierarchies and interaction cluster, the first 4 questions show significantly differing replies. Throughout all these questions, the younger participants are more likely to show a higher level of agreement. The highest impact of age on the results was identifiable in question 3 (**showing off**), with respective means of 3,36 and 2,6, which resulted in an effect strength of 0,26. The second-highest r value of 0,24 was found when players were asked if they are more likely to buy skins that attract attention, with a mean comparison of 3,47 to 2,8. Group 1 is also more likely to buy skins with the purpose of **being seen**, represented through a mean of 2,61 compared to a mean of 2,09, which resulted in an effect strength of 0,19. Lastly, with an r value of 0,12, the younger audience also shows significant tendencies in hoping to impress other players through their skins. Looking at the first 4 questions it becomes apparent that younger players are more interested in showing off and being seen. But at the same time, it should be kept in mind that, in general, none of these factors were even partly approved in the survey results of group 1. Thus, although they show a significantly higher tendency towards the previously mentioned factors, they still don't generally show a significant tendency towards any of the factors, which also holds true for the following questions: Question 32, which asked if real-life friends have an influence on the purchasing decisions, and question 55, which asked if games need to be free to spend money on decorative items, both have r values of 0,23. For the first question, the mean of 3,02 for group 1 shows no clear tendencies, but with a mean of 2,29 this question can be regarded as partly rejected for group 3. For question 55, no definite statements can be made with respective means of 3,18 and 2,53, although younger players are significantly less deterred from spending money for a paid-for game. Lastly, group 1 is again significantly more positively influenced by lore and story-design with a mean of 3,4 compared to a mean of 2,85 for group 3, which resulted in an effect strength of 0,18.

When investigating the complete survey, significant differences in the results were found in 12 cases out of a total of 157 (57 questions in 3 comparisons). These 12 cases consist of 7 individual questions. Summarized, the most distinct results are found when examining the first questions of the social hierarchies and interactions cluster in the comparison of groups 1 and 3. Younger players are generally more influenced by the factors examined in the quantitative survey, but it was especially prevalent in said cluster. It is clear that hypothesis 2, which assumed a significant influence of the age on the responses of the participants, has to be completely rejected in the case of the League of Legends survey, as the vast majority of questions showed no influence throughout the different age groups whatsoever.

12.8. Testing Hypothesis 3 - The Influence of Age in the GuildWars 2 Survey

The age distribution of the Guild Wars 2 survey participants spans over a total of 43 years, ranging from 13 to 56. 50% of participants are between the ages of 23 and 30, which compared to the previous League of Legends survey is significantly older. Thus, the age ranges for the different groups were slightly adjusted. Group 1 ranges from the age of 14 to 20, group 2 ranges from 21 to 26, and lastly group 3 which ranges from 27 till 39. While it would have been preferable to slightly decrease the maximum age for group 1, the cumulative age distribution made compromises necessary. Unfortunately, age group 1 is still extremely small and contains only 34 participants, whereas group 2 consists of 132 participants and group 3 contains 176 participants. When comparing group 1 and 2 with each other, a total of 7 questions showed significant differences in the results with an average r value of 0,2. The comparison between group 2 and 3 also resulted in the detection of 7 questions with significant differences with an average value of 0,13, while the comparison of group 1 and 3 resulted in 11 questions with an average effect strength of 0,22.

For the comparison of group 1 and 2, 4 of the 7 results are situated in the feelings of immersion clusters. The younger group uniformly showed significantly higher approval rates for questions 27, 29, 30 and 31. With the exception of question 27 (r = 0,23), which asked if **problems in real life** increase the importance of the gaming world and was only partly approved with a mean of 3,97, the remaining questions where all completely approved by group 1, whereas only question 30 (r = 0,16), which asked about the **emotional attachment** to the characters, was partly approved by the second age group and no clear tendency was discernible from the remaining questions for group 2. Subsequently, the younger audience also approved the positive correlation between emotional attachment and **increased willingness** to spend money with a mean of 4,12 and an effect strength of 0,2. The biggest discrepancy in the results of this cluster and also ultimately in the complete comparison between those two groups, was found in question 29 (r = 0,24), which asked about the influence of **lore and story-design**. The younger

audience again approved with a significantly higher rate, that they hope people are **impressed** by their outfits, with an r value of 0,2. For them, this factor can be seen as partly approved with a mean of 3,71, whereas no clear tendency can be given for the second age group with a mean of 3,05. The younger age group also showed a higher interest through the r value of 0,19 for skins that are related to their **culture**, with a mean of 3,12 compared to 2,53. Lastly, they also felt that having the same skin as **teammates** is more positive, with a mean of 3,29 compared to 2,83, which in turn resulted in an r value of 0,18. Generally, in all cases where a significant difference in the results was prevalent, the younger audience's outcomes reflected a higher level of agreement with the questionnaire than the outcomes of the older group.

For the comparison between group 2 and 3, a discrepancy of the results was found for questions 30 and 31 (emotional attachment + increased willingness to spend money), where the younger age group again showed a higher approval rate, which resulted in an effect strength of 0,14 for question 30 and a lower value of 0,09 for question 31. The highest effect strengths with an r value of 0,16 was examined for questions 5 and 15. Question 5 asked if players like to get **positive** reactions from others, which with a value of 4,11 was completely approved by the second group and with a mean of 3,78 only partly approved by group 3. Question 15 asked if players see themselves in the characters they play, which was favoured by group 2 with a mean of 3,25 compared to 2,82 for group 3. But ultimately, neither one of these means indicate a distinct tendency within the two groups. With an r value of 0,14, the group of 21 to 26 year old League of Legend players also felt that having a skin from the early stages of the game is significantly more interesting than the older group, with respective means of 3,45 and 3,13. The last two significant differences were found in question 17, which asked if characters are used to portray a different side for the players, which accumulated in an r value of 0,13, and question 18 with an r value of 0,12, which asked if characters are used to **explore** who the player could become. For both questions, the younger audience showed a significantly higher level of agreement. Just like in the previous comparison, in all cases where a significant difference in the results was prevalent, the younger audience results showed a higher level of agreement compared to the results of the older group.

In the comparison between group 1 and 3, the results of 11 questions showed significant differences with an average value of 0,22. Similar to the comparison between group 1 and 2, questions 27 to 31 from the cluster of feelings of

79

immersion, with the exception of question 28, showed the biggest influence the age has on the survey results. The respective r values for these questions are 0,23 for question 27 (**problems in real-life**), 0,26 for question 29 (**lore and story**), 0,24 for question 30 (**emotional attachment**), and lastly 0,27 for question 30 (**increased willingness to spend money based on emotional attachment**), which represents the highest effect strength in the comparison between age group 1 and 3.

Furthermore, the results for questions 4 and 27 produced an r value of 0,23. Question 4 asked if players hope that other people are **impressed** by their outfit, which compares with a mean of 3,71 for group 1 and 2,86 for group 3. Question 27 asked about the importance of **looking cool**, which was completely approved for the younger audience with a mean of 4,15 and only just partly approved for group 3 with a mean of 3,55. Wanting to get **positive reactions** was significantly more valuable for the younger group with a mean of 4,38 compared to 3,78, which resulted in an r value of 0,2. The same effect strength was calculated for the question, if having the same skins as teammates is seen as positive, which was again seen as more positive for the younger audience with a mean of 3,29 compared to 2,68 for group 3. The third weakest effect with a strength of 0,18 is prevalent for the question if players see themselves in the characters they play, which was again more favoured by the younger audience. The second weakest effect strength of 0,17 was calculated for question 1, which was not mentioned in previous topics. This question asked if players buy skins with the **desire to be** seen by other people. While the mean for group 1 of 2,85 shows no distinct tendency, this factor was partly rejected by group 3 with a mean of just 2,34. Question 13 has the weakest effect strength of 0,15. The younger audience shows a significantly more positive attitude towards liking skins that are related to their culture, although the respective means of 3,12 and 2,61 show no distinct tendencies for either one of the groups.

Summarized, a total of 25 cases showed a significant influence of the age on the responses of the participants, out of a theoretical maximum of 171, with an average r value of 0,18. These 25 cases consist of 14 unique questions that showed a significant influence throughout the comparison, which translates to 24,6% of cases. The results for group 1 showed strong deviations in the cluster of feelings of immersion, which was less prevalent between the two older groups. Thus, younger players are seemingly more immersed in a game and have a stronger emotional bond with their characters. Other than that, no generalizable statements

can be given, while the previously mentioned difference in the feeling of immersion is strongly limited by the fact that group 1 only consists of 34 participants. The third hypothesis, which is based on the qualitative inquiry and assumes a significant influence of the age on the decision-making process, must be mainly rejected. Although the age can influence the decision-making process in certain cases, the influence is weaker than previously expected. Additionally, parts of the differences in the responses might be based in measurement errors stemming from the small sample size for group 1.

12.9. Summary

The main purpose of the comparison of the two surveys was to do explorative research on the influence the game, the gender of the survey participants and their age has on the results. In the end, the hypothesis that the game has a significant influence on the decision-making process of the gamers was approved, as this influence was prevalent in the majority of cases. The influence of the gender showed limited, yet still statistically significant effects on the results for a minority of questions throughout both surveys. Hypothesis 2, which assumed a limited influence based on the gender, can thus also be seen as approved. This approval is limited by the fact of the small sample size for the female participants for both surveys. When analysing the effect of age on the survey results, it became apparent that the larger the gap between the two groups, the larger the diversion in opinions. In the League of Legends survey, the age range was significantly smaller compared to the Guild Wars 2 survey. In the direct comparison, there were fewer cases for the League survey in which the age had statistically significant influence on the survey results. Additionally, the disparity in opinion was always larger in the respective comparisons between the youngest and the oldest group. Ultimately, age still only showed to have a limited influence on the survey results. Hypothesis 3, which assumed that the age played a significant role in the decisionmaking process, thus must be rejected.

13. Conclusion

The results of this thesis show that there are a limited number of factors that universally positively influence gamers across all ages, genders and games towards the purchase of decorative elements, while there are a greater amount of factors that are only true for a selection of gamers. Additionally, even for the factors that are universally approved, practical implementations can be difficult. Finding a skin aesthetically pleasing showed to be the most important factor to gamers for example, but there is no definition of what aesthetically pleasing means to different people. Also, as the results of the comparison of the surveys between League of Legend players and Guild Wars 2 players showed, there are significant differences in the perception of skins in different games. Thus, although the goal of this thesis was to give practical implementation advice for game developers, this can only be done with limitations. Individual market research is inevitable for game developers. But the outcomes of this thesis can be used as stepping stones for further research, with a focus point on the factors that were at least partly approved or completely approved. But even the factors that were partly or completely rejected can prove to be relevant in some cases. Especially, since opinions can shift and good communication and marketing efforts can mitigate negative influences and predispositions, as was shown through the seemingly out of place collaboration between League of Legends and Louis Vuitton, which was in the end well received by the players.

During the research process, it also became obvious that gamers, at least those active in the Reddit communities for their respective games, show a high willingness to participate in market research. On the one hand they are interested in individual knowledge gain, while on the other hand, it is in their best interest that gaming companies know their desires. Compared to many other industries, the relation between players and developers can feel more like a partnership than a purely commercial relationship, which is also why the bad reputation of a gaming company can have a severely negative impact on the willingness of the players to spend additional money on skins. The inclusion of the community can have several positive effects, as different examples in the gaming industry showed. In Dota 2 for example, the community can design their own skins, upload them to the game and even get a share of the profits ³³⁹. Outsourcing parts of the design work to the community does not only save on costs, but it also decreases the need of a deeper understanding of what drives players to purchase certain skins, as only skins with a good rating get included in the game. Of course, this tactic requires an active community, which needs curation, and also carries with it certain risks. But it poses as a good example of how to overcome certain problems based in the complex psychology of consumer purchasing behaviour. Integrating and talking to the

³³⁹ Dota 2 - Item Workshop Guidelines

players, giving and receiving feedback, and generally having an open level of communication will ensure longevity and success for gaming companies. There are already positive role models for this approach, like Riot Gaming, who talk about their decision-making process in the design of certain skins. As mentioned in previous topics, they even published exact statistics for the reception of some of their skins and explained their way forward based on these results, which was generally very well received by the community ³⁴⁰. Although some players might not agree or be happy about the choices made, at least they are given the opportunity to comprehend these decisions.

Summarized, it is unfortunate that the practical implementation of the results is limited. Nevertheless, the results of the second quantitative survey show a wide range of factors that influence gamers' purchasing decisions. The level of agreement, in turn, shows how universally accepted each of these elements are. But even those that are not universally accepted can influence certain people in certain games. This in turn validates the findings of previous literature, for which only a small fraction of the adapted factors could be approved through the first quantitative survey. After doing additional research it became clear that this should not be considered a limitation of the previous research. It is rather partly a limitation of the first survey, which assumed gamers are a heterogenous group, and secondly is partly based in the nature of the process of purchasing skins, which is a complex process influenced by a range of factors, like the game, gender and age, but also presumably a range of additional factors like income, invested time in playing, social status and more. Further research should be conducted with the intent of analysing which external factors influence the decision-making process, as well as their respective effect strength.

The results of this survey show that there is no miracle recipe for universal success when it comes to skins. But at the same time, the factors inductively and deductively generated reflect factors that are always important to at least some of the gamers. Thus, game developers don't need to ask themselves which elements are important when designing skins anymore, as they are represented in this thesis. The only question they need to ask, is to what degree each of these factors is relevant to their target audience. Although there might still be a range of extremely specific motivators that are only relevant for a very small target group and were not detected, by combining the results of previous literature and doing

³⁴⁰ League of Legends North America – State of Skins and Events

additional exploratory research, it can be assumed that the majority of factors that influence the decision-making process of gamers is, in fact, included in this thesis.

14. Bibliography

- 48th Hawaii International Conference on System Sciences (2015 - 2015). 2015 48th Hawaii International Conference on System Sciences (HICSS). HI, USA, 05.01.2015 - 08.01.2015: IEEE.

- 49th Hawaii International Conference on System Sciences (HICSS) (2016 - 2016). 2016 49th Hawaii International Conference on System Sciences (HICSS). Koloa, HI, USA, 05.01.2016 - 08.01.2016: IEEE.

- Albers, Sönke (Hg.) (2007): Methodik der empirischen Forschung. 2., überarb. und erw. Aufl. Wiesbaden: Gabler.

- Alha, Kati & Koskinen, Elina & Paavilainen, Janne & Hamari, Juho & Kinnunen, Jani. (2014). Free-to-Play Games: Professionals' Perspectives.

- Animesh; Pinsonneault; Yang; Oh (2011): An Odyssey into Virtual Worlds: Exploring the Impacts of Technological and Spatial Environments on Intention to Purchase Virtual Products. In: MIS Quarterly 35 (3), S. 789. DOI: 10.2307/23042809.

- Antonius, Rachad (2003): Interpreting Quantitative Data with SPSS. 1 Oliver's Yard, 55 City Road, London England EC1Y 1SP United Kingdom: SAGE Publications Ltd.

- Authors & Digital Games Research Association (Hg.) (2010): Games as Services Final Report. TRIM Research Reports 2.

- Bartle, Richard A. (2016): MMOs from the inside out. The history, design, fun, and art of massively-multiplayer online role-playing games. Berkeley CA: Apress.

- Belk, Russell W. (1988): Possessions and the Extended Self. In: J Consum Res 15 (2), S. 139. DOI: 10.1086/209154.

- Belk, Russell W. (2013): Extended Self in a Digital World. In: Journal of Consumer Research 40 (3), S. 477–500. DOI: 10.1086/671052.

- Bhatnagar, Ruchi; Kim, Jihye; E. Many, Joyce (2014): Candidate Surveys on Program Evaluation: Examining Instrument Reliability, Validity and Program Effectiveness. In: American Journal of Educational Research 2 (8), S. 683–690. DOI: 10.12691/education-2-8-18.

- Birkett, Nicholas. (1986). Selecting the Number of Response Categories for a Likert-type scale. Journal of the American Statistical Association. 488-492.

- Blaikie, Norman (2003): Analyzing Quantitative Data. From Description to Explanation.

- Bock, Marlene (1992): Das halbstrukturierte-leitfadenorientierte Tiefeninterview. Theorie und Praxis der Methode am Beispiel von Paarinterviews.

- Bogner, Alexander (Hg.) (2005): Das Experteninterview. Theorie, Methode, Anwendung. 2. Aufl. Wiesbaden: VS Verl. für Sozialwiss. Online verfügbar unter http://www.socialnet.de/rezensionen/isbn.php?isbn=978-3-531-14447-4.

- Boone, Harry N.; Boone, Deborah A. (2012): Analyzing Likert Data. In: Journal of Extension (50).

- Bouchard, Thomas J. (1976): Unobtrusive Measures. In: Sociological Methods & Research 4 (3), S. 267–300. DOI: 10.1177/004912417600400301.

- Brigham, F. R. (1975): Some quantitative considerations in questionnaire design and analysis. In: Applied Ergonomics 6 (2), S. 90–96. DOI: 10.1016/0003-6870(75)90301-4.

- Brinkmann, Svend (2013): Qualitative Interviewing. Understanding Qualitative Research. Oxford: Oxford University Press USA (Understanding Qualitative Research). Online verfügbar unter http://site.ebrary.com/lib/alltitles/docDetail.action?docID=10727052.

- Byrne, David (2002): Interpreting Quantitative Data: SAGE Publications.

- Chen Peng & Yeong Gug Kim (2014) Application of the Stimuli-Organism-Response (S-O-R) Framework to Online Shopping Behavior, Journal of Internet Commerce, 13:3-4, 159-176, DOI: <u>10.1080/15332861.2014.944437</u>

- Chung, Janne; Monroe, Gary S. (2003): Exploring Social Desirability Bias. In: Journal of Business Ethics, S. 291–302.

- Cleghorn, Jack; Griffiths, Mark D. (2015): Why do gamers buy 'virtual assets'? An insight in to the psychology behind purchase behaviour. In: Digital Education Review (27), S. 85–104.

- Cohen, Jacob (1992): Quantitative Methods in Psychology. A Power Primer. In: Psychological Bulletin 112 (1), S. 155–159.

- Cramer, Duncan (2003): Advanced quantitative data analysis. Maidenhead: Open University Press (Understanding social research). Online verfügbar unter http://www.loc.gov/catdir/description/mh051/2002042582.html.

- Creswell, John W.; Creswell, J. David (2018): Research design. Qualitative, quantitative, and mixed methods approaches. Fifth edition. Los Angeles, London, New Delhi: SAGE.

- Daum, Jürgen (2002): Intangible Assets oder die Kunst Mehrwerte zu schaffen, 1. Auflage, Galileo Press GmbH, Bonn

- Davidovici-Nora, Myriam (2013): Innovation in business models in the video game industry: Free-To-Play or the gaming experience as a service. In: Comput Game J 2 (3), S. 22–51. DOI: 10.1007/BF03392349.

- Dawson, Catherine (2009): Introduction to Research Methods. A practical guide for anyone undertaking a research project. Fourth edition. [Oxford]: How To Books.

- Dichter, Ernest (2002): The strategy of desire. New Brunswick N.J.: Transaction (Classics in communication and mass culture series).

- Dillon, Roberto; Cohen, Ori (2013): The Evolution of Business Models in the Video Game Industry. In: Purnendu Mandal (Hg.): Proceedings of the International Conference on Managing the Asian Century. Singapore: Springer Singapore, S. 101–108.

- Dresing, Thorsten; Pehl, Thorsten; Schmieder, Christian (2015): Manual (on) Transcription. Transcription Conventions, Software Guides and Practical Hints for Qualitative Researchers.

- Dykema, Jennifer; Lepkowski, James M.; Blixt, Steven (1997): The Effect of Interviewer and Respondent Behavior on Data Quality: Analysis of Interaction Coding in a Validation Study. In: Lars Lyberg, Paul Biemer, Martin Collins, Edith de Leeuw, Cathryn Dippo, Norbert Schwarz und Dennis Trewin (Hg.): Survey Measurement and Process Quality: Wiley (Wiley Series in Probability and Statistics), S. 287–310.

- Fairfield, Joshua A.T. 85 Boston U. L. Rev. 101 (2005). Virtual Property. Online Available at https://scholarlycommons.law.wlu.edu/cgi/viewcontent.cgi?referer=https://scholar.google.de/ &httpsredir=1&article=1449&context=wlufac, Last checked 12.06.2020

- Fields, Tim; Cotton, Brandon (2015): Mobile & Social Game Design. Monetization Methods and Mechanics, Second Edition. 2nd ed. Hoboken: CRC Press. Online verfügbar unter http://gbv.eblib.com/patron/FullRecord.aspx?p=1460741.

- Flunger, Robert; Mladenow, Andreas; Strauss, Christine (2017): The free-to-play business model. In: Maria Indrawan-Santiago, Matthias Steinbauer, Ivan Luiz Salvadori, Ismail Khalil und Gabriele Anderst-Kotsis (Hg.): Proceedings of the 19th International Conference on Information Integration and Web-based Applications & Services - iiWAS '17. the 19th International Conference. Salzburg, Austria, 04.12.2017 - 06.12.2017. New York, New York, USA: ACM Press, S. 373–379.

- Forsyth, Barbara; Rothgeb, Jennifer M.; Willis, Gordon B. (2004): Does Pretesting Make a Difference? An Experimental Test. Wiley Series in Survey Methodology; John Wiley & Sons, Inc.

- Fowler, Floyd J. (2014): Survey research methods. Fifth edition. Los Angeles: SAGE (Applied social research methods series).

- Gadermann, Anne M.; Guhn, Martin; Zumbo, Bruno D. (212): Estimating ordinal reliability for Likert-type and ordinal item response data: A conceptual, empirical, and practical guide. In: Practical Assessment, Research, and Evaluation (17). DOI: 10.7275/N560-J767.

- Gander, Jonathan (2017): Strategic analysis. A creative and cultural industries perspective. New York: Routledge (Mastering management in the creative and cultural industries).

- Gläser, Jochen; Laudel, Grit (2009): Experteninterviews und qualitative Inhaltsanalyse als Instrumente rekonstruierender Untersuchungen. 3., überarb. Aufl. Wiesbaden: VS Verlag für Sozialwissenschaften (Lehrbuch). Online verfügbar unter http://deposit.d-nb.de/cgibin/dokserv?id=2995427&prov=M&dok_var=1&dok_ext=htm.

- Gliem, Joseph A.; Gliem, Rosemary R. (Hg.) (2003): Calculating, Interpreting, and Reporting Cronbach's Alpha Reliability Coefficient for Likert-Type Scales. Midwest Research to Practice Conference in Adult, Continuing and Community Education. The Ohio State University.

- Grimshaw, Mark (Hg.) (2014): The Oxford handbook of virtuality. Oxford, New York, Auckland, Cape Town, Dar es Salaam, Hong Kong, Karachi, Kuala Lumpur: Oxford University Press (Oxford handbooks).

- Guo, Yue; Barnes, Stuart (2007): Why people buy virtual items in virtual worlds with real money. In: the DATABASE for Advances in Information Systems) 38 (4), S. 69–76. DOI: 10.1145/1314234.1314247.

- Halkias, Serafilm; Jackson, Stephen M. (1990) The Truth behind Shareware and Public Domain Software. In: In; OCLC Micro Vol. 6, No. 6 December 1990. Emerald Insights

- Hamari, Juho; Alha, Kati; Järvelä, Simo; Kivikangas, J. Matias; Koivisto, Jonna; Paavilainen, Janne (2017): Why do players buy in-game content? An empirical study on concrete purchase motivations. In: Computers in Human Behavior 68, S. 538–546. DOI: 10.1016/j.chb.2016.11.045.

- Hamari, Juho; Keronen, Lauri (2016 - 2016): Why do People Buy Virtual Goods? A Literature Review. In: 2016 49th Hawaii International Conference on System Sciences (HICSS). 2016 49th Hawaii International Conference on System Sciences (HICSS). Koloa, HI, USA, 05.01.2016 - 08.01.2016: IEEE, S. 1358–1367.

- Hamari, Juho; Keronen, Lauri (2017): Why do people buy virtual goods: A meta-analysis. In: Computers in Human Behavior 71, S. 59–69. DOI: 10.1016/j.chb.2017.01.042.

- Hanner, Nicolai; Zarnekow, Ruediger (2015 - 2015): Purchasing Behavior in Free to Play Games: Concepts and Empirical Validation. In: 2015 48th Hawaii International Conference on System Sciences. 2015 48th Hawaii International Conference on System Sciences (HICSS). HI, USA, 05.01.2015 - 08.01.2015: IEEE, S. 3326–3335.

- Haskel, Jonathan; Westlake, Stian (2018): Capitalism without Capital. The Rise of the Intangible Economy.

- Ho, Cheng-Hsun (2012): Factors Affecting Intent to Purchase Virtual Goods in Online Games. In: International Journal of Electronic Business Management 10 (3), S. 204–212.

- Hoffmeyer-Zlotnik, Jürgen H. P. (1992): Analyse verbaler Daten. Über den Umgang mit qualitativen Daten. Wiesbaden: VS Verlag für Sozialwissenschaften (ZUMA-Publikationen).

- Huang, Echo (2012): Online experiences and virtual goods purchase intention. In: Internet Research 22 (3), S. 252–274. DOI: 10.1108/10662241211235644.

- Iarossi, Giuseppe (2006): The Power of Survey Design: The World Bank.

- Indrawan-Santiago, Maria; Steinbauer, Matthias; Salvadori, Ivan Luiz; Khalil, Ismail; Anderst-Kotsis, Gabriele (Hg.) (2017): Proceedings of the 19th International Conference on Information Integration and Web-based Applications & Services - iiWAS '17. the 19th International Conference. Salzburg, Austria, 04.12.2017 - 06.12.2017. New York, New York, USA: ACM Press.

- Jamieson, Susan (2004): Likert Scales: How to (ab)use them. In: Medical education 38 (12), S. 1217–1218. DOI: 10.1111/j.1365-2929.2004.02012.x.

- Jane Ritchie, Jane Lewis (2003) - Qualitative Research Practice: A Guide for Social Science Students and Researchers. SAGE

- Jick, Todd D. (1979): Mixing Qualitative and Quantitative Methods: Triangulation in Action. In: Administrative Science Quarterly 24 (4), S. 602. DOI: 10.2307/2392366.

- Johnson, R. Burke; Onwuegbuzie, Anthony J. (2004): Mixed Methods Research: A Research Paradigm Whose Time Has Come. In: Educational Researcher 33 (7), S. 14–26. DOI: 10.3102/0013189X033007014.

- Johnson, R. Burke; Onwuegbuzie, Anthony J.; Turner, Lisa A. (2007): Toward a Definition of Mixed Methods Research. In: Journal of Mixed Methods Research 1 (2), S. 112–133. DOI: 10.1177/1558689806298224.

- Kallio, Hanna; Pietilä, Anna-Maija; Johnson, Martin; Kangasniemi, Mari (2016): Systematic methodological review: developing a framework for a qualitative semi-structured interview guide. In: Journal of advanced nursing 72 (12), S. 2954–2965. DOI: 10.1111/jan.13031.

- Kotler, Philip (2000): Marketing Management, Milenium Edition: Prentice Hall.

- Krosnick, J. A. and Presser, S. (2009) 'Question and Questionnaire Design'. Handbook of Survey Research (2nd Edition) James D. Wright and Peter V. Marsden (Eds). San Diego, CA: Elsevier.

- Kruskal, W. H., & Wallis, W. A. (1952). Use of ranks in one-criterion variance analysis. Journal of the American Statistical Association, 47, 583–621.

- Kuß, Alfred (2012): Marktforschung. Grundlagen der Datenerhebung und Datenanalyse. 4. Aufl. Wiesbaden: Springer Gabler Verlag.

- Laudon, Kenneth C.; Traver Carol Guercio (2016): E-commerce 2016. Business, Technology, Society. 12th edition: Pearson College Div.

- Lehdonvirta, Vili (2009): Virtual item sales as a revenue model: identifying attributes that drive purchase decisions. In: Electronic Commerce Research 9 (1-2), S. 97–113. DOI: 10.1007/s10660-009-9028-2.

- Lehdonvirta, Vili (2010): Virtual Consumption. In: SSRN Journal. DOI: 10.2139/ssrn.1630382.

- Lehdonvirta, Vili (Hg.) (2005): Virtual Economics: Applying Economics to the Study of Game Worlds. Proceedings of the 2005 Conference on Future Play. Online verfügbar unter https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1630302, zuletzt geprüft am 15.10.2020.

- Lehdonvirta, Vili; Wilska, Terhi-Anna; Johnson, Mikael (2009): Virtual Consumerism. In: Information, Communication & Society 12 (7), S. 1059–1079. DOI: 10.1080/13691180802587813.

- Lin, Holin; Sun, Chuen-Tsai (2011): Cash Trade in Free-to-Play Online Games. In: Games and Culture 6 (3), S. 270–287. DOI: 10.1177/1555412010364981.

- Luton, Will (2013): Free 2 Play: Making Money from Games You Give Away. [Place of publication not identified]: Pearson Education.

- Lyberg, Lars; Biemer, Paul; Collins, Martin; Leeuw, Edith de; Dippo, Cathryn; Schwarz, Norbert; Trewin, Dennis (Hg.) (1997): Survey Measurement and Process Quality: Wiley (Wiley Series in Probability and Statistics).

- Macey, Joseph; Hamari, Juho (2019): eSports, skins and loot boxes: Participants, practices and problematic behaviour associated with emergent forms of gambling. In: New Media & Society 21 (1), S. 20–41. DOI: 10.1177/1461444818786216.

- Mandal, Purnendu (Hg.) (2013): Proceedings of the International Conference on Managing the Asian Century. Singapore: Springer Singapore.

- Mann, H. B., & Whitney, D. R. (1947). On a test of whether one of two random variables is stochastically larger than the other. Annals of Mathematical Statistics, 18

- Mäntymäki, Matti; Salo, Jari (2015): Why do teens spend real money in virtual worlds? A consumption values and developmental psychology perspective on virtual consumption. In: International Journal of Information Management 35 (1), S. 124–134. DOI: 10.1016/j.ijinfomgt.2014.10.004.

- Marczyk, Geoffrey R.; DeMatteo, David; Festinger, David (2005): Essentials of research design and methodology. Hoboken N.J.: John Wiley & Sons (Essentials of behavioral science series).

- Mayring, Philipp (2015): Qualitative Inhaltsanalyse. Grundlagen und Techniken: Beltz Verlag.

- Meier, Andreas; Stormer, Henrik (2008): eBusiness & eCommerce. Management der digitalen Wertschöpfungskette. 2. Aufl. Berlin, Heidelberg: Springer Berlin Heidelberg.

- Meier, Andreas; Stormer, Henrik (2008): eBusiness & eCommerce. Management der digital Wertschöpfungskette. zweite Auflage. Berlin, Heidelberg: Springer.

- Morris, Alan G. (2015): A practical introduction to in-depth interviewing. Los Angeles, London, New Delhi, Singapore, Washington, DC, Boston: SAGE.

- Neely, Erica L. (2019): Come for the Game, Stay for the Cash Grab: The Ethics of Loot Boxes, Microtransactions, and Freemium Games. In: Games and Culture, 155541201988765. DOI: 10.1177/1555412019887658.

- Oh, Gyuhwan; Ryu, Taiyoung (2007): Game Design on Item-selling Based Payment Model in Korean Online Games.

- Paliwoda, Stanley (2004): Qualitative Market Research. Special Issue: E-business. In: Qualitative Market Research: An International Journal 7 (1). Online verfügbar unter http://site.ebrary.com/lib/academiccompletetitles/home.action.

- Park, Bong-Won; Lee, Kun Chang (2011): Exploring the value of purchasing online game items. In: Computers in Human Behavior 27 (6), S. 2178–2185. DOI: 10.1016/j.chb.2011.06.013.

- Pfeffermann, Danny; Rao, Calyampudi Radhakrishna (Hg.) (2009): Handbook of statistics. 1. ed. Amsterdam: Elsevier North-Holland.

- Porter, Michael E. (1980): Competetive Strategy. Techniques for analyzing industries and competitors: The Free Press.

- Qu, Sandy Q.; Dumay, John (2011): The qualitative research interview. In: (Qualitative Research in Accounting & Management 8 (3), S. 238–264. DOI: 10.1108/11766091111162070.

- Reza, Alia; Chu, Sabrina; Khan, Zuaira; Nedd, Adanna; Castillo, Amy; Gardner, Daniel (2019): Skins for Sale: Linking Player Identity, Representation, and Purchasing Practices. In: Natalie Greene Taylor, Caitlin Christian-Lamb, Michelle H. Martin und Bonnie Nardi (Hg.): Information in Contemporary Society, Bd. 11420. Cham: Springer International Publishing (Lecture Notes in Computer Science), S. 124–131.

- Riensche, R. M., & Cowell, A. J. (2012). Commerce Models in Virtual Worlds and Environments. In Yang, H. H., & Yuen, S. C. (Ed.), *Handbook of Research on Practices and Outcomes in Virtual Worlds and Environments* (pp. 722-734). IGI Global.

- Stevens, S. S. (1946): On the Theory of Scales of Measurement. In: Science (103), S. 677–680.

- Sturgis, Patrick; Roberts, Caroline; Smith, Patten (2014): Middle Alternatives Revisited. In: Sociological Methods & Research 43 (1), S. 15–38. DOI: 10.1177/0049124112452527.

- Subedi, Basu Prasad (2016): Using Likert Type Data in Social Science Research: Confusion, Issues and Challenges. In: International Journal of Contemporary Applied Sciences 3 (2).

- Taylor, Natalie Greene; Christian-Lamb, Caitlin; Martin, Michelle H.; Nardi, Bonnie (Hg.) (2019): Information in Contemporary Society. Cham: Springer International Publishing (Lecture Notes in Computer Science).

- Third International Conference on Quality Software, 2003. Proceedings (2003 - 2003). Proceedings. Third International Conference on Quality Software. Dallas, TX, USA, 07.11.2003 - 07.11.2003: IEEE.

- Vogel; L, Harold (2003 - 2003): This page intentionally left blank. In: Third International Conference on Quality Software, 2003. Proceedings. Proceedings. Third International Conference on Quality Software. Dallas, TX, USA, 07.11.2003 - 07.11.2003: IEEE, 0_2-0_2.

- Wasko; Teigland; Leidner; Jarvenpaa (2011): Stepping into the Internet: New Ventures in Virtual Worlds. In: MIS Quarterly 35 (3), S. 645. DOI: 10.2307/23042801.

- Wengraf, Tom (2001): Qualitative Research Interviewing. Biographic Narrative and Semi-Structured Methods: SAGE Publications.

- Winter, J. F.C. de; Dodou, D. (2010): Five-Point Likert Items: t test versus Mann-Whitney-Wilcoxon. In: Practical Assessment, Research, and Evaluation: (15). DOI: 10.7275/BJ1P-TS64.

- Wu, Chi-Cheng; Chen, Ying-Ju; Cho, Yung-Jan (2013): Nested Network Effects in Online Free Games with Accessory Selling. In: Journal of Interactive Marketing 27 (3), S. 158–171. DOI: 10.1016/j.intmar.2013.04.001.

- Zendle, David; Ballou, Nick; Meyer, Rachel (2019): The changing face of desktop video game monetisation: An exploration of trends in loot boxes, pay to win, and cosmetic microtransactions in the most-played Steam games of 2010-2019.

14.1 Internet Sources

- Adam Cook - How games as a service are changing the way we play. Available at https://www.redbull.com/ie-en/games-as-a-service-changing-gaming-forever , available on 28.05.2020

- Alwin, Duane F.: Feeling Thermometers Versus 7Point Scales: Which are Better? InSociological Methods & Research 25(3):318-340 (1997). Available at <u>https://www.researchgate.net/publication/249693886_Feeling_Thermometers_Versus_7Point_Scales_Which_are_Better</u>, available on 15.07.2020

- Andrew Webster for The Verge - Louis Vuitton is designing new skins for League of Legends: A wide-ranging partnership with Riot that includes an LV case for the Summoner's Cup. Available at https://www.theverge.com/2019/9/23/20875541/louis-vuitton-league-of-legends-skins-summoners-cup-case , available on 10.10.2020

- Andrews, Frank M.: Construct Validity and Error Components of Survey Measures: A Structural Modeling Approach, in The Public Opinion Quarterly Vol. 48, No. 2 (1984). Available at https://www.jstor.org/stable/2749034?seq=4#metadata_info_tab_contents, available on 15.07.2020

- Author not named - BLIZZARD ENTERTAINMENT® ANNOUNCES WORLD OF WARCRAFT® "STREET DATE". Available at https://www.gamesindustry.biz/articles/blizzard-entertainment-announces-world-of-warcraftstreet-date-november-23-2004, available on 28.05.2020

- Author not named. Gaming monetization - Statistics & Facts. Available at https://www.statista.com/topics/3436/gaming-monetization/, Available on 25.05.2020

- Author not named. Preferred online gaming monetization methods according to gaming companies worldwide as of August 2016. Available at https://www.statista.com/statistics/608961/online-gaming-monetization-methods-used-by-gaming-companies-worldwide/, Available on 25.05.2020

- Author Unknown - World of Warcraft® Subscriber Base Reaches 12 Million Worldwide. Available at https://www.businesswire.com/news/home/20101007005648/en/World-Warcraft%C2%AE-Subscriber-Base-Reaches-12-Million, available on 28.05.2020.

- Birkett, Nicholas: Selecting the Number of Response Categories for a Likert-type scale, in Journal of the American Statistical Association (1986). Available at https://www.researchgate.net/publication/237202248 Selecting the Number of Response Categories for a Likert-type scale, available on 15.07.2020.

- Bock, M. (1992). "Das halbstrukturierte-leitfadenorientierte Tiefeninterview": Theorie und Praxis der Methode am Beispiel von Paarinterviews. In J. H. P. Hoffmeyer-Zlotnik (Hrsg.), Analyse verbaler Daten: über den Umgang mit qualitativen Daten (S. 90-109). Opladen: Westdt. Verlag in German. Available at

https://www.ssoar.info/ssoar/bitstream/handle/document/2566/ssoar-1992-bockdas_halbstrukturierte-

<u>leitfadenorientierte_tiefeninterview.pdf?sequence=1&isAllowed=y&lnkname=ssoar-1992-bock-das_halbstrukturierte-leitfadenorientierte_tiefeninterview.pdf</u>; available on 12.08.2020

- Brian, Matt for engadget - 'Fortnite' players can get the next Battle Pass for free. Available at <u>https://tinyurl.com/ycdu7bj4</u>, available on 11.06.2020

- Brustein, Joshua; Novy-Williams, Eben for Bloomberg, Virtual Weapons Are Turning Teen Gamers Into Serious Gamblers - The boom in pro video gaming is fueled by \$2.3 billion in online bets. 20.4.2016. Available at https://www.bloomberg.com/features/2016-virtual-guns-counterstrike-gambling/ , available on 05.06.2020

- Cavedog – Downloadable Content. Available at

https://web.archive.org/web/20010330073657/http://www.cavedog.com/totala/dwnlds_frame. html , available on 28.05.2020

- Christina Gough – Statista - Number of active video gamers worldwide from 2014 to 2021. Available at <u>https://www.statista.com/statistics/748044/number-video-gamers-world/</u>, available on 30.05.2020

- Counter-Strike Wiki: Skins. Available at https://counterstrike.fandom.com/wiki/Skins , available on 09.06.2020

- Counter-Strike Wiki: Souvenirs. Available at https://counterstrike.fandom.com/wiki/Souvenir, available on 07.06.2020

- Counter-Strike Wiki: StatTrak. Available at https://counterstrike.fandom.com/wiki/StatTrak%E2%84%A2 , available on 07.06.2020

- Counter-Strike Wiki: Supply Crates. Available at <u>https://counterstrike.fandom.com/wiki/Supply_Crate</u>, available on 07.06.2020

- CS:GO Exchange – Leaderboard. Available at <u>http://csgo.exchange/prices/#leaderboard</u> (Press leaderboard on the top), available on 10.06.2020

- CS:GO Web.net – CSGO Gambling Sites. Available at <u>https://www.csgoweb.net/best-csgo-gambling-sites</u>, available on 3.10.2020

- David Berliner for The Week from aeon (2016) - How our contradictions make us human and inspire creativity. Available at https://theweek.com/articles/665956/how-contradictions-make-human-inspire-creativity, available on 06.10.2020

- David Berliner for The Week from aeon (2016) - How our contradictions make us human and inspire creativity. Available at <u>https://theweek.com/articles/665956/how-contradictions-make-human-inspire-creativity</u>, available on 06.10.2020

- Dota 2 on Dota2.com - Dota 2 Item Workshop Guidelines Homepage: Available at <u>https://www.dota2.com/workshop/?l=english</u>, available on 10.10.2020

- Fox-Rushby, Julia; Nixon, Annabel; Nyandieka, Lillian Nyamusi: Methods for pre-testing and piloting survey questions: Illustrations from the KENQOL survey of health-related quality of life, in Health Policy and Planning 17(3):322-30 (2002). Available at <u>https://www.researchgate.net/publication/11245898_Methods_for_pre-</u> testing_and_piloting_survey_questions_Illustrations_from_the_KENQOL_survey_of_healthrelated_quality_of_life, available on 15.07.2020

- Hinz, Andreas; Michalski, Dominik; Schwarz, Reinhold, Herzberg, Philipp Yorck: The acquiescence effect in responding to a questionnaire. Available at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2736523/pdf/PSM-04-07.pdf, available on 14.07.2020.

- Jamie Villanueva for Dot eSport, 30.01.2018 - A Souvenir AWP Dragon Lore skin with a Skadoodle sticker sold for over \$61,000. Available at https://dotesports.com/counter-strike/news/skadoodle-souvenir-awp-dragonlore-61k-opskins-20636, available on 08.06.2020

- Jelle, Top 10 Most Expensive Virtual Items Sold. Available at https://gamehypermart.com/blog/top-10-expensive-virtual-items-sold , available on 25.05.2020.

- Karyne Levy. The Most Expensive Video Games Ever Made. Available at <u>https://www.businessinsider.com/the-most-expensive-video-games-ever-made-2014-</u> <u>7?r=DE&IR=T</u>, available on 28.05.2020 - Katie Gilsenan - Is Entertainment Subscription Fatigue Setting In? Available at https://blog.globalwebindex.com/trends/entertainment-subscription-fatigue/, available on 29.05.2020

- Kleinmann, Zoe - Fifa packs and loot boxes 'not gambling' in UK, 22.07.2019. Available at <u>https://www.bbc.com/news/technology-49074003</u>, available on 08.06.2020

- Koen Geens Vice-Eersteminister, Minister van Justitie en Minister van Europese Zaken – Loot Boxen, 25.04.2018. Available at <u>https://www.koengeens.be/news/2018/04/25/loot-boxen-in-drie-videogames-in-strijd-met-kansspelwetgeving</u>, available on 08.06.2020. (Translated using Google Chrome)

- Kollar, Philipp for Polygon - Valve deserves more of the blame for Counter-Strike's disgraceful gambling scene. Available at

https://www.polygon.com/2016/7/7/12103022/counter-strike-gambling-valve , available on 09.06.2020

- Kopp, Carol M., What is a business model? Available at <u>https://www.investopedia.com/terms/b/businessmodel.asp</u>, available on 25.05.2020.

- Landtag Brandenburg - Glücksspielelemente in Computerspielen. Available at https://gluecksspiel.uni-

hohenheim.de/fileadmin/einrichtungen/gluecksspiel/Parlamentsanfragen/2018_Brandenburg _Loehr_Gluecksspiel_Computerspiele.pdf, available on 09.06.2020

- League of Legends North America - State of Skins and Events, An update on Ultimate skins, Legendary skin animations, thematics, events, and more. Available at https://na.leagueoflegends.com/en-us/news/dev/state-of-skins-and-events/, available on 10.10.2020

League of Legends YouTube Channel with Developer Jonathan 'Bellissimoh' Belliss (2020)
Skins & Events in Season 2020 | Dev Video - League of Legends. Available at https://www.youtube.com/watch?v=gl65xHnD5Yc, available on 06.10.2020

League of Legends YouTube Channel with Developer Jonathan 'Bellissimoh' Belliss (2020)
Skins & Events in Season 2020 | Dev Video - League of Legends. Available at https://www.youtube.com/watch?v=gl65xHnD5Yc, available on 06.10.2020

- Lexiko, Author not named: Microtransactions. Available at <u>https://www.lexico.com/en/definition/microtransaction</u>, available on 25.05.2020.

- Lim, William for medium.com - Blood in the Water: A History of Microtransactions in the video game industry. Available at https://medium.com/@williamlim3/blood-in-the-water-a-history-of-microtransactions-in-the-video-game-industry-e5bf9e3de4da , available on 17.06.2020

- Makuch, Eddie for Gamestop: Valve hires economist to study virtual currency, 15.06.2012. Available at https://www.gamespot.com/articles/valve-hires-economist-to-study-virtualcurrency/1100-6382690/, available on 08.06.2020

- Manninen, Tony; Kujanpää, Tomi – 2007 In Int. Journal of Business Science and Applied Management, Volume 2, Issue 1, 2007 at

https://www.researchgate.net/publication/26493733_The_Value_of_Virtual_Assets_ _The_Role_of_Game_Characters_in_MMOGs ; Available at 04.06.2020

- Matt Weinberger - The 11 top-grossing video games of all time. Available at https://www.businessinsider.com/the-11-top-grossing-video-games-of-all-time-2015-8?r=DE&IR=T, available on 28.05.2020

- Mayring, Philipp (2000). Qualitative Content Analysis [28 paragraphs]. Forum: Qualitative Social Research, 1(2), Art. 20. Available at http://nbn-resolving.de/urn:nbn:de:0114-fgs0002204, available on 12.08.2020

- McLeod, S. A. (2019, May 20). *What a p-value tells you about statistical significance*. Simply Psychology. Available at <u>https://www.simplypsychology.org/p-value.html</u>, available on 04.10.2020

- MCV Staff. Inside Rockstar North – Part 2: The Studio. Available at

https://www.mcvuk.com/development-news/inside-rockstar-north-part-2-the-studio/184061/ , available on 28.05.2020

- Mike Colagrossi: How Microtransactions Impact the Economics of Gaming. Available at https://www.investopedia.com/articles/investing/022216/how-microtransactions-are-evolving-economics-gaming.asp#what-is-a-microtransaction, available on 25.05.2020.

- Morris, Alan (2015): *A Practical Introduction to in-depth interviewing*, SAGE Publications Ltd. Chapter 1 available at https://uk.sagepub.com/sites/default/files/upm-assets/68701_book_item_68701.pdf , available on 13.07.2020

- Morse, Janice M.: Approaches to Qualitative-Quantitative Methodological Triangulation, 1991. Article in Nursing Research. Available <u>https://www.academia.edu/2356244/Approaches to qualitative-</u> quantitative methodological triangulation, available on 09.07.2020

- Namika - Why is the Pug'Maw Skin in 100% of these Kog Games? Available at: https://www.reddit.com/r/leagueoflegends/comments/782b8c/why_is_the_pugmaw_skin_in_1 00_of_these_kog_games/ , available on 18.09.2020

- Pew Research Center – Questionnaire Design. Available at https://www.pewresearch.org/methods/u-s-survey-research/questionnaire-design/, available on 14.07.2020

- Posted by Namika - Why is the Pug'Maw Skin in 100% of these Kog Games? Available at: https://www.reddit.com/r/leagueoflegends/comments/782b8c/why_is_the_pugmaw_skin_in_1 00_of_these_kog_games/ , available on 18.09.2020

- Riad Chikhani. The History Of Gaming: An Evolving Community. Available at https://techcrunch.com/2015/10/31/the-history-of-gaming-an-evolving-community/, available on 28.05.2020

- Robert Earl Wells III - What Is DLC in Gaming and How Does It Work? Available at https://www.lifewire.com/what-is-dlc-in-gaming-how-does-it-work-4707377, available on 28.05.2020

- Skinwallet: The Complete Guide to CS:GO Skins. Available at https://www.skinwallet.com/csgo/csgo-skins/#CSGO_Skins_Rarity, available on 07.06.2020

- Sollee, Kristen for Bustle Magazine - Watch These Feminists Try Playing Grand Theft Auto (2015). Available at <u>https://www.bustle.com/articles/78647-feminists-play-grand-theft-auto-for-the-first-time-and-its-not-pretty</u>, available on 14.10.2020

- Statista (Gough, Christina) - Estimated amount wagered on Counter-Strike: Global Offensive (CS:GO) skins worldwide in 2015 and 2016. Available at https://www.statista.com/statistics/749301/amount-wagered-csgo-skins/, available on 10.06.2020

- Steam - Counter-Strike: Global Offensive. Available at https://store.steampowered.com/app/730/CounterStrike_Global_Offensive/ , available on 07.06.2020

- Steam – In-Game Item Trading Update, 13.07.2016. Available at https://store.steampowered.com/news/22883/, available on 08.06.2020

- Steam Community: CS:GO Knife Patterns. Available at https://steamcommunity.com/sharedfiles/filedetails/?I=german&id=247406953+, available on 07.06.2020 - Steam Community: How long does it take to get to Level 21? Available at https://steamcommunity.com/app/730/discussions/0/1743353798886052585/, available on 09.06.2020

- Steam Store: CS:GO Prime Status Upgrade. Available at https://store.steampowered.com/sub/54029/, available on 09.06.2020

- Steam Support – Community Market FAQ. Available on https://support.steampowered.com/kb_article.php?ref=6088-UDXM-7214 , Available on 08.06.2020

- Steam Support - CS:GO - Operation Shattered Web. Available at https://support.steampowered.com/kb_article.php?ref=9882-YSHX-0720#includedsw , available on 09.06.2020

- Steam: New Revenue Share Tiers and other updates to the Steam Distribution Agreement. Available at

https://steamcommunity.com/groups/steamworks/announcements/detail/1697191267930157 838 available on 05.06.2020

- Sulake (Achived): Haboo Hotel – Where else? Available at: https://archive.vn/20140925040049/http://www.sulake.com/Habbo , available on 03.07.2020

- Superdata Research - 2019 Year In Review: Digital Games and Interactive Media. Available at <u>https://www.superdataresearch.com/reports/2019-year-in-review</u>, available on 29.05.2020

- Tchuriki for BroSkins: Pattern Rank on AK-47 Case Hardened and Price Value in 2020. Available at https://broskins.com/index.php?threads/pattern-rank-on-ak-47-case-hardenedand-price-value-in-2020.15/ available on 07.06.2020

- TeaWithMilkAndSugar for Steelseries - Why are CS:GO Skins Priced So Differently? Insights from an expert CS:GO trader. Available at <u>https://steelseries.com/blog/csgo-skins-prices-232</u>, available on 10.06.2020

- Toby CS: https://www.tobyscs.com/csgo-item-quality-guide/. Available at https://www.tobyscs.com/csgo-item-quality-guide/ , available on 07.06.2020

- Total Cs Go: CS:GO Skin Trading Sites Comparison. Available at <u>https://totalcsgo.com/skin-trading-sites</u> , available on 05.06.2020

- Total CS:GO - CS:GO Skin Trading Sites Comparison. Available at <u>https://totalcsgo.com/skin-trading-sites</u>, available on 08.06.2020

- Ubisoft Support – Helix Credits. Available at https://support.ubisoft.com/dede/Faqs/000037107/Helix-Credits-in-Assassin-s-Creed-Odyssey-ACOD , available on 29.06.2020

- United Kingdom Gambling Commission - Loot boxes within video games, 24.11.2017. Available at http://www.gamblingcommission.gov.uk/news-action-and-statistics/News/loot-boxes-within-video-games, available on 08.06.2020

- United Kingdom Gambling Commission - Virtual currencies, eSports and social casino gaming – position paper, March 2017. Available at http://www.gamblingcommission.gov.uk/PDF/Virtual-currencies-eSports-and-social-casino-gaming.pdf, available on 08.06.2020

- Villanueva, Jamie for Dot eSports - A simplified explanation of CS:GO ranks. Available at https://dotesports.com/counter-strike/news/csgo-rankings-explained-14168, available on 11.06.2020

- Wikidiff - https://wikidiff.com/cosplay/roleplay. Available at https://wikidiff.com/cosplay/roleplay , available on 21.09.2020

- Wikidiff - https://wikidiff.com/cosplay/roleplay. Available at https://wikidiff.com/cosplay/roleplay , available on 21.09.2020

- Will Kenton – Opportunity Cost. Available at https://www.investopedia.com/terms/o/opportunitycost.asp , available on 28.05.2020

A1 Appendix

B1 Analysis of factors from previous literature

B1.1 Cleghorn & Griffiths - Why do gamers buy 'virtual assets'? An insight in to the psychology behind purchase behavior

Type [.]	Exploratory	vhute
iype.		Sluuy

Inquiry: Interviews with 6 gamers

Method: Interpretative phenomenological analysis

Limitations: No generalizability

Games: Battle Pirates, World of Warcraft, Diablo III, Guild Wars 2, Farmville, Lord of the Rings online

Results

Motivations for purchase:

- Necessity
- Exclusivity
- Function
- Commitment
- Impressed by others
- Impressing others
- Collectability
- Cool Factor

Social aspects of gaming and purchasing

- Real and lasting friendships
- Replacement for going out

Emotional attachment to avatar

- Emotional attachment to avatar
- Pride
- Emotional Enjoyment

Psychological reward / impact

- Superiority
- True / ideal self
- (Lack of) Self-torment
- Satisfaction
- Immersion

Self-Expression

- Role-playing
- Extension of self
- Detached from avatar

Stock-market gaming and gaming culture

- Stock market gaming
- Ruining of game experience

Research / impulse buying

- Recommendations
- Impulse buying
- Trying on items

B1.2 Lehdonvirta - Virtual Items as a revenue Model - Identifiying attributes that drive purchase decision

Type:Exploratory study

Inquiry: First-hand user experience, interviews with developers, interviews with professional virtual good traders, informal discussions with users and players

Method: Random sampling

Limitations: No generalizability

Games: 14 virtual game platforms, like Habo, Cyworld, Kart Ryder and more

Results

Hedonic:

- Visual appearance and sounds
- Background fiction
- Provenance
- Customisability
- Cultural references
- Branding

Social:

Rarity

Functional:

- Performance
- Functionality

B1.3. Johnson et al. - Virtual Consumerism

Type: Exploratory study

Inquiry: 12 interviews, studies of 24 Habbo Hotel fansites, first-hand user experience (online fieldwork)

Method: Case-study

Limitations: No generalisability, no evaluation of importance

Games: Habbo Hotel

Results

- Self-expression
- Aesthetics
- Luxury / Social Status
- Items as carriers of arbitrary meaning

B1.4. Guo & Barnes - Virtual item purchase behavior in virtual worlds: an exploratory investigation

Type: Exploratory and explanatory research

Inquiry: 4 focus groups with 24 people from China. Focus group 1 plays paid games, focus group 2 plays free games, focus group 3 plays paid games, focus group 4 plays free games

Method: Semi-structured focus groups

Limitations: No generalisability

Games: World of Warcraft, Pokart, Crazy Kart, QQ Yinsu, Popkart, Dahua Xiyou, Menghuan Xiyou, Jinwutuan, Zhengtu, Jinwutuan, MoYu, Wulin Waizhuan

Results

Theme 1: Why virtual world residents pursue virtual items

- Enjoyment (from participating in virtual worlds)
- Character competency
- The requirements of the quest system

Theme 2: Why players obtain virtual items through purchasing them in virtual worlds

- Effort expectancy
- Performance expectancy
- The quality of the virtual world
- Social influence
- Personal real resources
- Virtual item resources
- Habit

Theme 3: The aspects players are most concerned about when making a specific purchase

- Social Influence
- Trust
- Perceived profit-making opportunities

B1.5. Overview of all adapted factors

Social

- Luxury / Social Status
- Social influence
- Exclusivity
- "mpressed by /
- Impressing others (Social Shopping)"
- Cool Factor
- Recommendations
- Real and lasting friendships
- Superiority

Psychological

- Self-Expression
- Emotional attachment to avatar
- "Emotional Enjoyment /
- Satisfaction"
- True/ideal self

Not adapted:

- Visual appearance and sounds
- Rarity

_

- Provenance
 - Character competency (Functional)
- Virtual item resource
- Function
- Arbitrary Meaning

- Extension of Self / Roleplay

Individual

- Enjoyment (Participating in VW)
- Personal real resources
- Replacement for going out
- (Lack of) Self-torment
- Impulse buying
- Cultural references
- Commitment
- Aesthetics

Rational

- Perceived profit-making opportunities
- Stock market gaming
- Customisability
- Collectability / Rarity
- Branding (Brand)
- Background fiction
- Effort expectancy
- Performance expectancy
- The quality of virtual world
- trying Items
- Immersion
C1. Design of Questionnaire 1

For the sake of comprehensiveness for the reader ³⁴¹, the factors influencing gamers purchasing decisions of virtual decorative items for this thesis were categorized in sociological, psychological, individual and economic rational factors. Additionally, factors found by previous researchers that were not adapted were categorized in item-related and business model related categories.

The different categories in the context of this thesis can be defined as follows:

- **Sociological**: Factors relating to social relationships, interactions between players, and players respective cultures
- **Psychological**: Factors relating to emotions, self-image, and self-expression
- Individual: Factors relating to the personal (socioeconomic) background of gamers, their respective feelings and convictions
- Economic Rational: Factors related to the monetary incremented value of players

This first step of categorizing all factors served the purpose of making further categorizations more comprehensive for the reader but should not be considered absolute, as some factors can be categorized in different categories simultaneously. The attribute "aesthetic" for example could be seen as a means of self-expression for the gamer and would therefore be considered a sociological factor. But it can also relate to the individual perception of beauty, which would make it a psychological factor. Or it can also be considered an item-inherent factor that is related to game design.

The next step of structuring the factors was done with the intention of being able to group factors together that serve similar purposes and can be answered by related questions. A total of six clusters was formed based on the queryability of the individual factors. For example, Cleghorn & Griffiths list "impressed by / impressing others" as a single factor that influences purchasing motivation ³⁴². In a quantitative questionnaire, this factor can hardly be answered by the same question. Since it can be argued that being impressed by somebody else's outfit is different than wanting to impress somebody else with one's outfit, although both might be sociological elements, they are not only split up into two factors but additionally separated into two different clusters.

The six clusters are:

- **Building Hierarchies** (*Factors that serve the purpose of social distinctions*)
- External Factors (External influences in the life of players)
- Individual Factors (Factors related to the personal background of the player)
- Self-Expression / Extension of Self (Factors related to self-representation of the player)
- Feeling of immersion (Individual Factors related to the level of immersion of the player*)
- **Economic Rational** (*Financial motivations*)

Understanding the meaning of those clusters should be intuitive by looking at the corresponding factors.

The microtransaction business model has advanced since most of the adapted research was done. Players that prefer loot boxes or a battle pass system might have different opinions than players that prefer the direct sale of skins. Thus, the survey participant will be asked how they

³⁴¹ Pew Research Center – Questionnaire Design

^{342*} This factor is related to game design factors but focuses on the perception of the player in an immersive game, rather than trying to uncover what makes a game feel immersive

Cleghorn & Griffiths – Why do Gamers buy Virtual Assets Table 2 p. 90

bought skins in the past and what type of transaction method they prefer. Nowadays, there is no AAA game that doesn't at least feature one of the two concepts.

C1.1. Revision and limitation of Questionnaire 1

The questionnaire was revised with a psychologist and reviewed with two gamers which bough skins in the past. After publishing the survey, many participants annotated the lack of monetary item related questions which is a complaint that did not come up during the pilot phase. Thus, five additional questions were added to the end of the survey to the economic rationale cluster, giving people the opportunity to voice their opinion of pricing and discounts. Concerning the standards of academic work, this can be considered a mistake since the original questionnaire should not have been altered in the process of taking replies. 23 participants completed the survey without these questions. The added questions can be found in the attached questionnaire.

C1.2. Sample

The questionnaire was published in different gaming forums as well as several private distribution channels. Some questions of the questionnaire are only relevant for a selection of games. For example, only in games which allow the sale of skins can the question about economic rational be answered, although it might be possible to sell skins and accounts unofficially. Additionally, in first person games, the emotional attachment of players to their own avatars can be expected to be relatively small, as they themselves are unable to see it. The results of the questionnaire can therefor differ not only based on the different participants but also on basis of the games they play. These limitations cannot be mitigated. While it would be possible to only give out the questionnaire to players of a preordained game, this would in turn limit the practicability of the results of this for developers. Instead, the survey will be given out to players of a range of AAA games that are free-to-play and have a matured revenue system that generates big turnovers. But even then, participants may have bought skins for other games too, which can't be avoided.

The survey was published on Reddit in several subforums: League of Legends, CounterStrick: Global Offense, Apex Legends, Dota 2 and a general survey subforum called SampleSize.

C1.3. The Questions of Questionnaire 1

General Questions

- What is your gender?
- What is your age?
- Have you ever paid money for a skin / decorative item?

Introductory Questions

- How did you buy skins?
- For which game did you buy skins?

General Attitude

- Do you consider the option to buy skins in games positive?
- Do you consider the option to buy functional items (P2W) in games positive?
- Do you prefer games that only offer skins, only offer functional items or games that offer both?

Self-Expression

- 1. I like skins that let my character look the way I feel about my true self
- 2. I like skins that let me express myself the way I would like to look in real-life
- 3. I like skins that let my character look like another character or somebody I like
- 4. I like skins that let my character / my gear look cool
- 5. I like skins that let my character / my gear look pretty
- 6. I like skins that are related to my cultural background (e.g. country flags)

Social Hierarchies

- 7. Skins are a way of showing my status to other people
- 8. It is important for me that only very few people have the same skin
- 9. It is important for me to NOT look like a new player
- 10. I want other people to think I'm cool
- 11. I like to show off the skins I bought to other people I know (in game or offline)
- 12. I would buy skins also for an offline game
- 13. The more expensive a skin is, the cooler it is

Extrinsic Influences

- 14. When I decide which skin I want to buy I Look at what skins other people are using
- 15. When I decide which skin I want to buy I Care about recommendations I got (friends, streamers etc)
- 16. When I decide which skin I want to buy I Decide independently
- 17. When I decide which skin I want to buy I Don't want what everybody else is using
- 18. When I decide which skin I want to buy I Like to be part of a group of people who have the same/similar taste
- 19. When I play the game I Like some players because of the skins they are using
- 20. When I play the game I Dislike some players because of the skins they are using

Feelings of Immersion

- 21. I buy skins when I played the game for a long time
- 22. I buy skins when I play the game with people I know (online or offline)
- 23. I buy skins when I really enjoy the game
- 24. I buy skins when I feel emotionally attached to my character

Individual Factors

- 25. After I buy a skin I feel good
- 26. After I buy a skin I feel bad
- 27. Before I buy a skin, I usually think about it for a long time
- 28. For me, buying skins is a replacement for going out
- 29. Shopping for skins makes me feel good but shopping in real-life makes me feel bad
- 30. I only buy skins if I have some money leftover at that time

Economic Rationale

- 31. I like it // I would like it if I can sell my skins on a marketplace
- 32. I like it // I would like it if I can make money by buying and selling skins
- 33. Do you think there is a risk that players focus too much on the financial aspects rather than playing the game if there is the option to make money by selling skins?

C2. Analysis of Questionnaire 1

C2.1. Overview of the results of Questionnaire 1

	Mean	Variance	
Question1	2,68	1,751	True Self
Question2	2,43	1,768	Real life
Question3	3,31	1,849	Roleplay
Question4	4,75	0,378	Cool
Question5	4,36	0,974	Pretty
Question6	2,29	1,659	Cultural Background
Question7	2,67	2,004	Status
Question8	2,58	1,942	Exclusivity
Question9	2,44	1,812	No new player
Question10	2,79	1,939	Think I'm cool
Question11	3,42	1,889	Showing off
Question12	2,36	1,823	Offline games
Question13	2,26	1,679	Expensive = Cooler
Question14	2,45	1,659	Look at what others are using
Question15	2,34	1,53	Care about recommendations
Question16	4,41	0,715	Decide Independently
Question17	2,71	1,645	Like exclusivity
Question18	2,21	1,293	Like to be part of a group
Question19	2,66	2,034	I like some players
Question20	2	1,647	I dislike some players
Question21	4,36	0,783	Long Playtime
Question22	3,44	1,838	Playing with people I know
Question23	4,62	0,539	Enjoy the game
Question24	3,44	1,828	Emotional Attachment
Question25	3,8	0,999	Feel Good
Question26	2,01	1,175	Feel Bad
Question27	3,39	1,72	Think about it a long time
Question28	1,96	1,537	Replacement for going out
Question29	2,18	1,6	Shopping makes me feel bad
Question30	3,98	1,204	Having money leftover
Question31	3,71	1,98	Would like marketplace
Question32	3,08	2,148	Earn money with skins
	Average	1,54	

C2.2. Sample

A total of 402 people participated in the survey, out of which 393 people finished the survey successfully. The remaining 9 people never paid money for a decorative item and where therefor excluded.

The introductory personal questions for the questionnaire included the age and sex of participants. In statistics the age is numerical, and the gender is a nominal category. To depict the age distribution of participants, a boxplot will be used ³⁴³.



Figure 4: Age Boxplot for the first quantitative survey

For the age, 376 valid answer were given, while two participants refrained from stating their age. For the rest of the participants, the age range is 56, reaching from 13 to 69 years. The lower quartile is 20, the upper quartile is 26 which means that 50% of participants were of between the age 20 and 26. The median is at 22.5 vears. Gender wise, 350 participants or 92,59% identified as male, 6,08% (23) identified as female and 1,32% (5) identified as diverse. Summarized, the majority of survey participants are males between the age of 20 and 26. The skewedness towards a younger male audience might reflect the general composition of gamers but since the majority of participants were collected at Reddit, the age distribution might simply be a representation of the average Reddit user.

Introductory Questions

When asked about the transfer method used to buy skins, the biggest group consisting of 52,4% of the participants answered that they used all three methods available, meaning the direct purchase, loot boxes and a battle pass. In comparison 19,3% participants answered that they only used one method to buy skins. In total, 15,1% only used direct sales as transfer method, 4,2% have only used a battle pass and no participant only used loot boxes. The second biggest group consisting of 19,2% of participants answered that they have used a combination of direct sales and a battle pass, 5.8% used direct sales combined with loot boxes and the remaining 3.2% used loot boxes and battle pass. а Cumulated, the direct sale of decorative items was used by 88.65% of participants, followed by the battle pass with 74,81% and lastly loot boxes with 57,43%.

	Quantity	Percentage
Battle Pass	16	4,2%

³⁴³ Byrne – Interpreting Quantitative Data p. 98 f.

Direct Sale	57	15,1%
Direct Sale, Battle Pass	73	19,3%
Direct Sale, Loot Box	22	5,8%
Direct Sale, Loot Box, Battle Pass	198	52,4%
Loot Box, Battle Pass	12	3,2%
Total	378	100,0%

Figure 2: Transfer Methods

When asked about which games they bought skins for in the past, multiple answers were possible. The 378 participants listed a total of 45 console and computer games as well as 6 mobile games as games they bought skins for in the past. In total (with the exclusion of online games) 778 replies were given which means that every participant bought at least one skin in 2,06 games on average. The top games named were Dota 2 (238), League of Legends (135), CounterStrike: Global Offense (124), Overwatch (59), Fortnite (55), Apex Legends (35) and Valorant (17).

General Attitude

When asked if the option to buy cosmetic items in games is seen as positive, 356 participants or 94,2% answered with yes and 5,8% with no. When consequently asked if the option to buy functional items was seen as positive, 96,8% or 366 participants replied with no and 3,2% or 12 participants answered yes. In the last question of the general attitude cluster, the question was which kind of business model is seen as the best. One that offers purely functional items, one that offers purely decorative items or one that offers a mix of both. Following the results of the first two questions, 96,8% of participants subsequently answered that they prefer a game that only offers decorative items. These results validate the underlying assumption made in the beginning of this thesis that functional items are widely regarded as negative, which is why this work only focuses on decorative items.

Self-Expression

The self-expression cluster was designed to examine the effect of the following factors on players purchasing decisions: Self-expression, showing true self, showing ideal self, extension of self, roleplaying, aesthetics and cultural references.



1. When asked if skins are a way of expressing the true self for players, the majority of participants answered neutrally. The mode as well as the median are 3. There is a slight tendency towards disagreeing though, as 41,01% of participants answered in a disagreeing fashion whereas only 26,46% answered in agreement. This tendency is also represented by the mean which is 2,68 and thus slighty favoured towards disagreeing. 2. When asked if skins are a way of expressing the players ideal self, the answers leaned even

more towards disagreeing. The most frequent answer was complete disagreement, with the median being 2. Compared to the first question it is also interesting that the participants had a stronger attitude towards the ideal self than the true self, as the amount of neutral answers dropped from around 33% to around 22%.



3. When asked if players used skins as a means of roleplaying or cosplaying, the participants mainly answered in an agreeing fashion. The mode and median are 4, but the mean is 3,31 an thus indicates a slight tendency towards positive-neutral. This rests upon the relatively big group of people who completely disagreed with this statement, which is only around 4,5% smaller than the group of people who completely agrees with it. The main difference in answers is between the groups of people who answered partly agree versus partly disagree. The amount of people who partly agree is 3 times larger (32,54%) than the group of people who partly disagree (10,32%).

4. The fourth question of the self-expression cluster showed by far the most unambigous replies in the whole survey with a variance of only 0,38. The mode and median are 5 and the mean of 4,75 also shows a great tendency towars complete agreement. In total, only 1 person said they partly disagree and 4 people said they completely disagree. It is fair to say that looking cool is the most important or motivating factor players have to buy a skin.



5. Question 5 asked the players if looking pretty was an important factor when picking a skin. With the majority of people saying they completely agree and the mean being 5, it is again fair to say that looking pretty is very important for players. When the median of 4,36 (with a variance of 0,97) is compared to the previous question with a median of 4,75, it is deductible that looking cool is slightly more important to participants than looking pretty. The exactly meaning of looking cool and looking pretty is very subjective though and require further research. 6. When asked if participants like skins that are connected to their cultural background, a vast majority completely disagreed. The median is 2 and the mean 2,29, thus it can be derived that having a cultural background is not important to players.

Cluster Analysis for Self-Expression

To show the general tendency of agreement or disagreement for the whole self-expression cluster, the mean of mean will be used in combination with Cronbach's Alpha. The mean of means for the self-expression cluster is 3,3 with an average variance of 1,39 and a Cronbach's Alpha value of 0,673. Based on the interpretation table provided by the university

of Virginia, a value between 0,65 and 0,8 is considered acceptable ³⁴⁴. The reliability of the scale is thus situated at the lowest end of being acceptable.

Summarized, the replies of self-expression cluster were situated around the neutral position with a slight tendency towards agreement, with a relatively wide dispersion of votes and a low but marginally acceptable scale reliability. In general, participants only fully agreed with question 4 and 5 and fully disagreed with question 6. Thus, it can be said that certain factors of self-expression are particularly important to players, but that self-expression in itself is not generally regarded as important influence that motivates purchasing behavior.

Social Hierarchies

The social hierarchies cluster was designed to examine the effects of the following factors on players purchasing decisions: Social status, luxury, exclusivity, impressing others, cool factor, and a feeling of superiority.



1. When asked if skins are a way for players to show their status level, the high variance of 2 shows that the participants had diverging views about this question. The most common answer was completely disagree (31,2%) but the median is 3 and the mean is 2,67 which indicates that participants were indecisive of this question but showed a tendency towards disagreeing. The results of this question might suffer from the social desirability bias, in which respondents are more likely to answer in a way that is socially accepted rather than their true motivations, as showing off can be considered socially undesirable ³⁴⁵. This will be further explored in the qualitative

2. When asked if the exclusivity of a skin is important, meaning that only very few people should have the same skin, the results were quite similar to question 1. The most common answer was completely disagree, the mean was 2,58 with a variance of 1,94 which both is only slightly lower than in the previous question. But the median is 2 for this question. Summarized this means that participants were still quite indecisive about this question but generally rejected exclusivity as a trait slightly more than showing off.



question 3, the most common reply was completely disagree again with the median being 2. The mean is with 2,44 slightly lower than for previous answers. The variance is still quite high

³⁴⁴ University of Virginia - Using and Interpreting Cronbach's Alpha

³⁴⁵ Chung & Monroe – Exploring Social Desirability Bias p. 291

with 1,81. Summarized, skins are not important to players just because they indicate that the respective player is not new to the game. 4. Again, most participants answered completely disagree when asked if impressing others was important to them. The median is 3 but the mean shows a slight tendency towards disagreeing with a value of 2,79, which is the highest amount of out all questions of this segment so far and a variance of 1,94. Again it remains questionable how far the social desirability index influences this question.



5. In auestion 5 it is asked if players like to show off their skins to either people in the game or people they know offline. For the first time in this cluster, the mode of 4 showed a positive association with this question. The most common answer was partly agree but the mean of 3,42 shows that the average answer had a tendency towards neutral-positive. Again, the variance of 1,89 is still quite high which shows the diverging opinions of participants. But question 5 is still the first one that is least partly approved at bv players. 6. Question 6 asked if participants would also buy skins for a single player game. This question was asked as control question and should show reversed results to the previous questions, meaning that if the results of the previous questions showed that building social hierarchies is not seen as important factor, people should also be willing to buy skins for offline games. But although, with the exclusion of question 5, the previous questions were declined, question 6 was also mainly rejected. With a value of 2,36 it even accounts for the lowest mean of the whole cluster meaning it was rejected the most. The median is 2 and the mode 1. The results of this question might again be influenced by the social desirability bias in previous questions. It could also be the case, that social hierarchies are important to players but that the wrong questions were asked in this survey. Lastly, these results might also be due to the fact that the amount of offline games that allow for microtransactions are small and that all participants have bought skins for online games before, whereas only a small amount also bought skins for offline games (Assassins Creed was mentioned twice in the introductory questions, which is an offline game that offers microtransactions).



7. Question seven was aimed to find out how important a factor of luxuriousness was for players. The results show that an increasing price does not improve the perceived coolness or quality of a skin, as the most common answer again was completely disagree. The median was 2 and the mean is with 2,26 the lowest one of all questions in this cluster. Additionally, the variance is the lowest with 1,7 which means that players were the most coincided about this question. It seems to be the case that the look and quality of the skin itself are worth more to the players than its inherent monetary value.

Cluster Analysis for Social-Hierarchies

Cronbach's Alpha value for the social-hierarchies cluster is 0,7 and thus slightly higher than for the previous cluster. Interestingly, when question 6 asking about skins in offline games is removed, Cronbach's Alpha increases to 0,79 which shows a relatively high reliability. It also indicates that question 6 had a strongly negative influence on the internal scale reliability. The mean of means is 2,65 which indicates that participants generally answered in neutral fashion with a relatively strong tendency towards disagreeing. The variance of 1.87 shows that the opinions differed a lot depending on the respective person answering the survey. Building social hierarchies doesn't seem to be an important factor influencing the purchasing decisions of players actively. But it might be an unintentional yet inherent effect of buying skins. If this effect unwittingly has a positive or negative effect on the motivation to buy skins can't be distinctly answered with the results of this questionnaire, although the evidence suggests no positive correlation. As was mentioned before, this might also be partly due to the social desirability bias. Further qualitative testing is needed to expound those open questions.

Extrinsic Influences

The cluster of extrinsic influences was designed to examine the influence of the following factors on players purchasing decisions: Social influence, being impressed by others, recommendations and building and supporting real and lasting friendships.



1. When asked if the skins other people are using influence the purchasing decisions of the survey participants, the most common answer was completely disagree. The median is 2 and the mean also shows a clear tendency towards disagreeing with a value of 2,45. Seemingly players are not influenced by what other players are wearing. Going back to the social-hierarchies cluster question 2, players also stated that item exclusivity is not an important factor for them which supports the results of this question. The variance is 1,66 which is relatively high and shows that at least some players are partly influenced by what they see other people use in the game.

2. The results for the second question also indicate that extrinsic influences, in this case recommendations, have a limited effect on players purchasing decisions with the most common answer again beeing completely agree. The mode is again 2 but the mean of 2,34 and a slightly lower variance of 1,53 show that players are even less influenced by recommendations they get than by the things they see in the game.



3. Question 3 is a controll question that show the reversed results of the previous answers if players answer consistently. Coherently to the previous replies, players were clear that they decide independently with the mode and median bein complete agreement. This tendency becomes even more obvious when the mean of 4,41 is taken into consideration with the extremely low variablity of 0,72 which indicates that players generally coincideded in their opinion. For the cluster analysis the results of this question need to be reversed, as the question is worded with the inverted meaning. When agreeing to previous questions this meant that players are influenced by external factors wheareas a positive association with this influenced question means that people are not by external factors. 4. Question 4 is asked in a negative form (don't) which has to be taken into consideration for the analysis. The most common answer was that participants partly agreed that they don't want to use what everybody else is using but the second most common reply was that people completely disagreed with this statement. Summarized, these diverging answers with a variance of 1,65 resulted in a neutral median of 3. But the mean again indicates a slight tendency towards agreeing to this statement with a value of 2,71. Wether this means that most people don't care about skin exclusivity or that most people do actually want to wear what everybody else cannot be answer indisputably, but in the context of this cluster and previous questions it could be argued that external factors simply don't influence players decision making process. This statement is also suppored by en question 2 of the social hierarchie cluster as well as by the following question number 5 in this cluster.



5. Questions 5 was aimed to answer the question if building and supporting friendships or trying to belong to a certain group were important factors for players to buy skins. The most common answer was completely disagree and the median is partly disagree. The mean is 2,21 and thus also close to partly disagree with a comparibly low variance of 1,29. To this point question 5 was rejected the most on average out of all questions of this cluster. 6. Questions 6 and 7 can again be seen as control questions as they tried to examine if players care about the skins other people are using and if it influences the formation of an opinion about those players. When asked if skins can have a positive influence on their perception of a certain player, the answers were highly distinc with a variance of 2,03 which is the highest score for this cluster. Generally, 44% of players disagreed in one form or the other while 37,5% agreed that it can have a positive influence. The median is neutral but the mean of 2,66 shows that players generally tend to disagree that they like certain players based on their skins.



7. Question seven tested if skins in reverse of question 6 might not have a positive effect on players but a negative one, comparable to Herzberg's two-factor theory in which some factors can have a neutral to negative influence and other factors can have a neutral to positive

influence. It turns out that a skin is more likely to have a positive effect than a negative effect on other players, as this question resulted in a mode and median of 1 and a mean of exactly 2. In total 53,7% of participants completely disagreed with question 7. Although the variance of 1,65 shows that a portion of players have a different opinion, the results indicate a quite unanimous rejection that skins have a negative influence when perceived by other players.

Cluster Analysis for External Influences

As was mentioned before, for the cluster analysis, question 5 will be reversed as it inherently asks for independent decision making whereas all other questions try to examine the external influences on players and thus produces converse results. If the whole cluster is taken into consideration, the mean of mean is 2.28 an thus explicitly shows that generally external influences are not influencing the participants of the survey, although the average variance of 1,5 shows that there are some deviations to this general trend. Cronbach's Alpha is with 0,66 again at the lowest end of being acceptable which shows that the correlation of the items in question is given to at least some degree. Again, it remains unclear to what degree the social desirability bias might have influenced the results. It seems unlikely that players are not influenced by their surroundings when it comes to making purchasing decisions, especially because playing online consists mainly of playing in different teams and communities. These questions will be revisited in the qualitative part, as the survey shows very no indication that external influences play a role in the decision-making process of gamers with few exemptions.

Feelings of Immersion

The cluster of feelings of immersion was designed to examine the influence of the following factors on players purchasing decisions: Commitment, enjoyment in participation in virtual worlds and the emotional attachment to an avatar.



1. Playing a game for a long time seems to be a very important factors that needs to be fulfilled for players to buy a skin. Completely agree was picked by 55,3% of participants which is also represented in the mode and median of 5. The mean is 4,36 with a very low variance of 0,78 question. which means that players generally were unambigous about this 2. The second and third question tried to examine the factor of enjoyment not only in playing but also in participating in virtual worlds. If participation automatically implies playing with other people is not further elaborated in the original source but was assumed in regard to this thesis. Although it remains unclear if this was implied or not, it can be said that playing with people players know (offline or online) does have a positive impact on purchasing decisions. Mode and median are both situated in partly agree which was picked by 29,9% of people followed by completely agree which was picked by 25,9%. The mean of 3,44 and the high variance of 1,84 indicate that a portion of participants had differing thoughts about this, as 15,3% replied with completely disagree. The results suggest that knowing people has a very positive effect on purchasing decisions but isn't an indispensable presupposition.



3. Enjoyment in playing the game is by far the most favoured factor in the immersion cluster. Median and mode again are 5 with 71,7% of participants choosing completely agree as answer. The mean of 4,62 with the extremely low variance of only 0,54 show that enjoying the game is an incredibly important factor that influences the purchasing decision of nearly all players. Interestingly, the total score (a mean of 4,62 vs a mean of 4,75) for this question is slightly lower and the variance (0,54 vs 0,38) slightly higher than the results for question 4 of the self-expression cluster. Theoretically, this would mean that looking cool is more important more plavers than enjoying the game. albeit to only sliahtly. 4. The emotional attachment to the avatar also has a positive influence on players purchasing decisions. The mode and mean both lie at 4, as partly agree was chosen by 41% of participants. The results are nearly completely similar to question 2, with the mean being 3,44 and the variance being a relatively high 1,83. The evidence again suggests that feeling emotionally attached to the character has a positive influence but is not a necessity to all gamers.

Cluster Analysis for Feelings of Immersion

Theoretically, feeling immersed in a game is generally a particularly important influence on gamers. The mean of means has a value of 3,97 with a relatively low variance of 1.25. In this survey it has the biggest positive influence on gamers purchasing decisions out of all clusters. But Cronbach's Alpha has a value of only 0,45, which means that the internal scale reliability is not acceptable as the questions seemingly measure different concepts. Question 4 has the biggest negative influence on the Alpha value, which increases to 0,5 when question 4 is removed, which is not unacceptable anymore but still very bad, as the value of Cronbach's Alpha should at the very least be around 0,65 like mentioned previously ³⁴⁶. Regarding this thesis, the clusters themselves only served a subordinate function, as the purpose of the questionnaire was not primarily to test the validity of those clusters but to examine the underlying factors individually. Nevertheless, the small Alpha value does cast a very poor light on the results of this cluster.

Individual Factors

The cluster of individual factors was designed to examine the influence of the following factors on players purchasing decisions: Personal resources, impulse buying, satisfaction (in buying), replacement for going out, lack of self-torment.

³⁴⁶ University of Virginia - Using and Interpreting Cronbach's Alpha



Question 1 and 2 were aimed towards examining the satisfaction in buying. As the mode and median are 4, it can be said that generally buying a skin makes players feel good most of the time. This is underpinned by the mean of 3,8. The variance of 1 shows that players were quite unambigous about this factor.
Question 2 is a reversed control question for the first question. The results of question 2 support the findings of the previous question, as the majority of players disagree with the fact that buying a skin makes them feel bad. The most common answer with 42,9% was completely disagree and the mean and median being 2. The variance of 1,18 again shows that most players felt that buying a skin did not have a negative impact on their wellbeing.



3. Question 3 tried to examine if players are likely to buy skins out of an impulse. The mode and median of 4 indicate that players are not likely to buy a skin without thinking about it for a long time. The median of 3,39 indicates a tendency towards the neutral side and the variance of 1,72 shows that at least some players do buy out of an impulse. But it must be alluded that the question asked players if they usually think about it for a *long time*. However, there is of course a midway between thinking for a long time and spontaneity. Thus, participants who disagreed with this statement could also mean that they think about it for what they perceive as a short while, without it automatically having to be an impulse purchase. This inaccuracy could have been avoided by simply asking participants if they are susceptible to impulse buying.

4. The results of question 4 indicate that buying skins is generally not seen as a replacement for going out, as the mode and median are both 1, with 53,2% of participants picking completely disagree as their answer, which is also represented by the very low mean of only 1,96. The variance of 1,54 once again indicates though, that at least for some people skin buying a skin is indeed partially seen as a replacement for going out.



5. Question 5 tries to examine if shopping in real-life makes people feel bad and that shopping for their character in turn makes them feel better and skin shopping is thus perceived as an alternative for real-life shopping. Most players replied that they completely disagree with this statement although the variance of 1,6 indicates that this might be different for a small proportion of players. Summarized, 19,4% of players at least partly agreed that this is the case for them. But the median of 2 and the mean of 2,18 clearly indicate that this is the exception in most

6. Question 6 examines if personal resources are important to players and if buying skins is only done when there is money leftover at that moment, which would indicate a low prioritization. In general, 76,2% of participants replied that it's at least partly important to have money leftover when buying skins. Accordingly, the median is 4, the mean is basically identical with 3,98 and the most common answer was completely agree. The variance of 1,2 shows a moderately high concentration of answers around a positive association with this statement.

Cluster Analysis for Individual Factors

It must be pointed out that this cluster combined factors that are heavily related to the individual circumstances of individuals, like self-perception, the financial situation or the individual shopping behavior. Therefor an analysis of the whole cluster wouldn't result in worthwhile results. As an example, Cronbach's Alpha value of 0,29 indicates that the questions generated answers for different constructs, which was the exact the purpose of this cluster. Accordingly, calculating an average mean of variance also couldn't can't be interpreted in a way that is beneficial for the general purpose of knowledge gain.

Economic Rationale

The cluster of economic rationale was designed to examine the influence of the following factors on players purchasing decisions: Perceived profit-making opportunities, stock-market gaming. Most games don't offer the option to sell skins through official channels, which is why the questions included a subjunctive.



1. When participants were asked if they (would) like the option to sell skins through an official marketplace, answers mainly favoured this option. The most common answer was completely agree with 41,5%, the median is partly agree with 4. The mean of 3,71 also indicates a positive association with a slight tendency towads neutral. The variance of 1,98 is high which shows that participants had differing opinion about bein able to sell their skins on a marketplace. 2. In quesiton 1 it was not specified if the marketplace works with a currency that can be earned in game or if real money is needed but only if the option to sell skins would be interesting to the gamers. Based on this, the second question specifically asked if players would like it if they could make real money by selling skins. The results of this question are interesting as the votes are cast quite equally spread throughout the different options. This is also emphasized by the extremely high variablity of 2,15. The most common answer with 22,8% is completely agree but the second most common answer was completely disagree with 22,5%, which again shows how strongly divergent the opinion of the participants were. Expectedly, the median is 3 and the mean 3,08. The neutral answer was chosen by 20,9% of people but judging by the

distribution of votes it would be wrong to say that players in general had a neutral opinion about this question, but rather that there was no distinct perceptible tendency towards agreeing or disagreeing perceptible through this statement. To be precise, there was very slight tendency towards a positive association, as the mean was bigger than 3.



3. Unlike the previous questions, participants could only say yes, no or don't know with question 3. The aim of this question was to figure out if gamers see a risk that players focus too much on the financial aspects rather than playing the game if there is the option to make money by selling skins. 46,03% of players thought that there was indeed a risk, whereas 35,71% said they don't see this risk and 18,25% people said they don't know. These results are especially interesting when compared to the results of the previous question. A slight majority of people favoured the option to make money, but with this question the majority of participants voted that they also see a risk in stock-market gaming. The only way this shift in opinion can be explained is that the people who see a risk in stock-market gaming don't really care about what other players do in the game and that they mostly don't see that risk being prevalent for themselves.

Cluster-Analysis for Economic Rational

As was stated before, a cluster-analysis can only be conducted if there are at least 4 Likerttype items that form a Liker-scale together. As there are only two Liker-type questions in this cluster, no cluster-analysis can be conducted. In the finalized questionnaire, five additional questions were asked to participants, as the pilot tests revealed that the players had the urge to give their opinion on price related questions. These questions are not relevant regarding this thesis, while nevertheless producing interesting results



Question 1: I only buy skins if they are cheap

This question asked participants if they only buy skins if they are cheap. The mode and median have a neutral value of 3, but the mean of 2,8 indicates a slight tendency towards disagreeing with this statement. The variance of 1,55 shows that the opinions of participants differed a bit.

Question 2: I prefer cheap skins over expensive skins

This question can be seen as a follow up question of the previous one that asked if players maybe buy expensive skins too but do prefer cheaper ones. The results mirror the results of the previous question, as the mode and median were again situated in the neutral area. The

mean of 2,97 still indicated a very small tendency towards disagreeing with the statement and the variance of 1,42 is again quite similar to the previous question.



Question 3: A discount has a big influence on my purchasing behavior

The results of question 6 show that a discount has a big positive influence on players purchasing decisions. The mode and median are partly agreeing. The mean of 3,84 shows a slight tendency towards the neutral side. It can be assumed that asking if a discount had a positive impact on the purchasing behavior rather than a *big* positive influence the results would have shifted even more towards agreement. The variance of 1,35 is moderate and shows that most people had the same opinion about this question. It is interesting that 6,3% of participants said that a discount had no influence on them at all, as they answered with completely disagree.

Question 4: The exact definition of what a high price is and what defines a high-quality skin need further elaboration and are highly subjective. The mean and mode of 4 do show that the participants are willing to pay what they perceive as a lot of money for their definition of a high-quality skin. The mean of 3,59 shows a rather heavy tendency towards neutrality though. But summarized it can be said that players that have paid money for a skin before are not very price-sensitive when it comes to their decision-making process.

Question 5: What was the highest price you paid for skin?

The analysis of this question poses several issues as several different currencies were used, including virtual currencies. Since the value of those virtual currencies can change, some players noted that they themselves don't know the exact value in euro or dollar anymore. Additionally, a range of values also had no currency stated which makes it impossible to use. The highest price seems to have been 5,000\$ although it is not further elaborated if this was for a single skin or cumulated spending, or the type of skin bought.

D1. Questionnaire 2

Social Hierarchies and Interaction

- 1. I buy skins if I want other people to see / notice me
- 2. Skins that attract attention are more interesting
- 3. When I buy a skin, a part of me likes to show off in front of others
- 4. When I buy a skin, a part of me hopes other people are impressed by my outfit
- 5. I like to get positive reactions by others for the (creative) choices I made
- 6. If I like the skin / creative choices of other players I give them positive feedback
- 7. I buy skins so other players are more likely to recognize me
- 8. A high price makes skins more prestigious
- 9. Skins that must be earned through achievements are more prestigious than skins you can buy
- 10. Skins from the early game stages like season 1 or the beta phase are prestigious
- 11. Skins were more important to me when I only had a limited amount of skins
- 12. I want other people to be jealous of my skins
- 13. I like skins that are related to my culture

Self-Expression and Ideals

- 14. I use skins to represent my ideas of how a character / object should ideally look
- 15. I see myself in the characters I play
- 16. I use characters to display my ideal self
- 17. I use characters to show a different side of me
- 18. I use characters to explore who I can become
- 19. I like to play characters I find attractive
- 20. I like to buy skins that I find sexy
- 21. I like to flirt with other players in a game
- 22. I like to roleplay with my character (Make it look like somebody I like / find cool)
- 23. I like to use skins that have a comedic factor

Feelings of Immersion

- 24. I think skins must be authentic / fit into the gaming-world
- 25. Certain skins can also have negative impacts on the gaming-experience
- 26. The artwork of a skin plays a big role in my decision-making process
- 27. If I have struggles in real-life, the gaming world becomes more important to me
- 28. Becoming more immersed in a game is possible through certain skins
- 29. Lore and Story-Design influence my willingness to purchase skins
- 30. I feel emotionally attached to my characters
- 31. The more emotionally attached I feel to my character, the more likely I am to buy skins

Extrinsic Influences

- 32. Real-life friends I play with have an influence on my purchasing decisions
- 33. Online friends I play with have an influence on my purchase decisions
- 34. The more I value my online community, the more likely I am to buy skins
- 35. Having the same / similar skins to your teammates is positive
- 36. The reputation of Riot / ArenaNET influences my purchasing decisions
- 37. I sometimes buy skins to show my support to Riot / ArenaNET
- 38. If I don't like a gaming company I am less likely to buy skins

Individual Factors

- 39. Being financially stable is a must when buying skins
- 40. Feelings of nostalgia influence my purchasing decisions
- 41. I like to have a complete set of skins for a character / game

Economic Rationale

- 42. I would like to have the option to trade skins between players
- 43. I would prefer if the skin-trade was done on exchange basis
- 44. I would prefer if the skin trade was done with real money
- 45. I think implementing a skin marketplace can have negative effects on the game

Skin-Centered Factors

- 46. Aesthetics is an important factor when buying a skin
- 47. Looking cool is an important factor when buying a skin
- 48. Having a skin can enrich the gameplay experience
- 49. I am willing to spend more money if the skin has cool additional features (Sounds, attack designs etc.)
- 50. A skin collaboration with a brand I know would be cool (Guild Wars 2) // The Louis Vuitton skin collaboration was cool (League of Legends)

Game Centered Factors

- 51. When I buy a skin, I make my decisions quickly
- 52. A higher level of player interaction has a positive influence on my willingness to buy skins
- 53. A higher level of character customizability has a positive influence on my willingness to buy skins
- 54. I only buy skins if I expect to play the game for a long time in the future
- 55. Games don't need to be free for me to buy skins
- 56. I am less likely to buy skins if they use a subscription fee
- 57. If NPCs would react to skins, I would be more likely to buy them for offline games

E1. Data for Quantitative Survey 2

E1.1. Direct Comparison of general survey results:

Participants	LoL	287						
	GW2	347						
	Total	634						
	Mean Iol	Maan GW2	Dif Mean	Significance	7	Effectetrength	Variance Lol	Variance GM
Ouertien 1	a a	0.46	0.16	one	2	enectstrength	4 7	4 c
Question 1	2,5	2,40	-0,16	0,00		0.1.0	1,7	1,0
Uuestion 2	3,11	2,59	0,52	U	-4,793	0,19	2,0	1,7
Question 3	3,07	2,95	0,12	0,148			2,2	1,7
Question 4	2,37	3,03	-0,66	0	-5,853	0,23	1,8	1,9
Question 5	3,13	3,97	-0,84	0	-8,129	0,32	1,9	1,4
Question 6	3,05	3,81	-0,76	0	-6,877	0,27	2,0	1,4
Ouestion 7	1.85	1.98	-0.13	0.101			1,3	1,3
Question 8	2,00	1.78	0.49	0	-4 799	0.19	18	13
Question 0	2,27	1.16	0,45	0	5.040	0,12	20	1,0
Question 9	3,00	4,40	-0,8	0	-5,642	0,25	2,0	0,0
Question 10	3,69	3,29	0,4	0	-4,726	0,19	2,1	1,6
Question 11	2,9	2,73	0,17	0,185			2,2	1,7
Ouestion 12	1,78	1,82	-0,04	0,595			1,4	1,4
Question 13	2,48	2,64	-0,16	0,102			1,9	1,6
Question 14	3.37	4.12	-0.75	0	-7.257	0.29	1,9	1,1
Question 1.5	2.64	3.06	-0.42	0	-3,779	0.15	2.0	18
Ouestion 16	2.23	2.49	-0.26	0.05	-2.825	0.11	19	18
Question 17	2,23	2,49	-0,20	0,00	-2,023	0,11	-,0	1,0
Question 17	2,37	2,88	-0,51	0	-4,852	0,19	2,1	2,1
Question 18	2,34	2,53	-0,19	0,51			2,1	2,0
Question 19	3,35	3,67	-0,32	0,033	-2,135	0,08	2,3	1,6
Question 20	2,86	2,57	0,29	0,027	-2,217	0,09	2,5	1,7
Question 21	1,47	1,34	0,13	0,546			1,0	0,6
Question 22	1,76	2,29	-0,53	0	-5,543	0,22	1.5	1.9
Question 23	3.8	2.66	114	Ο	-10776	0.43	1.3	1.7
Question 24	2,5	2,00 3 //E	-0.05	n	-9.61	0.34	17	17
Question 24	2,5	3,43	-0,93	0.054	-0,01	0,04	1,1	4.2
Question 25	4,15	4,12	0,03	0,854			1,3	1,3
Question 26	4,02	4,04	-0,02	0,988			1,4	1,3
Question 27	3,19	3,24	-0,05	0,727			1,9	1,8
Question 28	3,16	3,28	-0,12	0,423			1,9	1,5
Question 29	3,3	3,45	-0,15	0,367			2,4	1,9
Ouestion 30	3.2	3.75	-0.55	0	-4,306	0.17	2,3	1,5
Question 31	3.65	3.29	0.36	0	-3.63	0.14	23	21
Question 82	3,55	3,25	0,00	0.001	-9.445	0,14	2,0	1.0
Question 32	2,72	2,5	0,42	0,001	-3,443	0,14	L'7 10	1,3
Question 33	2,28	2,35	-0,07	0,396			1,9	1,8
Question 34	2,55	2,84	-0,29	0,007	-2,688	0,11	2,3	1,9
Question 35	3,72	2,8	0,92	0	-10,326	0,41	1,7	1,1
Question 36	3,02	3,44	-0,42	0	-3,838	0,15	1,9	1,6
Question 37	2,83	3,62	-0,79	0	-6,648	0,26	2,2	2,0
Ouestion 38	414	4 43	-0.29	0.001	-3 298	013	1.5	1.0
Question 39	4.47	4 59	-0.12	0,002	0,200	0,20	0.8	0.6
Question 40		9.07	0,12	0,107			0,0	0,0
	3,5	5,27	0,05	0,445			1,9	1,5
Question 41	3,11	3,25	-0,14	0,42			2,3	1,7
Question 42	3,53	3,52	0,01	0,282			2,3	1,6
Question 43	3,41	3,16	0,25	0,001	-3,238	0,13	2,0	1,3
Question 44	1,84	1,73	0,11	0,291			1,1	0,9
Question 45	3,77	3,37	0.4	0	-4,341	0,17	1,6	1,5
Question 46	4,86	4.84	0.02	0.314			0.2	02
Question 47	4.48	3.67	0.81	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	-10.050	0.40	2,0 0.9	1.4
	4,40	3,07	0,01	0	-10,039	0,40	0,0	4.2
Question 48	4,39	5,88	0,51	U	-7,01	0,28	0,9	1,2
uues tion 49	4,47	3,86	0,61	0	-7,892	0,31	0,9	1,4
Question 50	3,63	2,25	1,38	0	-11,987	0,48	1,5	1,7
Question 51	3,14	2,85	0,29	0,08	-2,666	0,11	2,0	1,7
Question 52	3,06	3,24	-0,18	0,067			1,7	1,4
Question 53	3,78	4,48	-0.7	0	-7,635	0,30	1.6	0.6
Question 54	4.16	4 41	-0.25	0.006	-2.743	011	12	0.8
Ouestion 55	3.00	20	-0.91	0	-7 607	0.30	10	1 2
Question 55	3,09	0,9	-0,01	0177	-7,007	0,50	6,1	6,1
Question 56	4,21	4,11	0,1	0,177			1,3	1,3
Question 57	2,77	2,45	0,32	0,003	-2,938	0,12	2,0	1,9
						Average	1,7	1,5
								~~
			Avg Mean LoL	Avg Mean GW2	Avg R Value			
Social Herard	hies and Intera	tion	28	29	0.13			
Self-Evanceio	n and inkede		2,0	2,2	0.16			
Endings of the	manuelas		2,0	2,0	0,10			
n een igs 0 i 111 Toteinais tuff	n ersturt		3,4	3,6	0,00			
Extrinsic Intilu	ences		3,0	3,1	0,17			
Individual Fad	tors		3,6	3,7	0,00			
Economic Rati	onale		3,1	2,9	0,08			
Skin-Centered	Factors		4,4	3,7	0,29			
Game Centere	ediFactors		3,5	3,6	0,13			

Participants	Males	226					
	Females	58					
	Total	284					
League	Mean Femal	vlean Male	Significance	R	lEffectstrengthl	/ariance M	Variance F
Question 1	2,1	2,35	0,254			1,81	1,39
Question 2	2,97	3,15	0,334			2,01	2,07
Question 3	3,22	з рз	0,381			2,20	2,21
Question 4	2,48	2,36	0,588			1,83	1,97
Question 5	3,26	3,09	0,385			1,87	1,95
Question 6	3,16	3,03	0,649			2,10	1,64
Question 7	1,62	1,91	0,149			1,37	0,80
Question 8	2,07	2,32	0,242			1,85	1,57
Question 9	3,83	3,88	0,657			1,97	1,97
Question 10	3,4	3,79	0,055			1,96	2,31
Question 11	2,84	2,91	0,801			2,21	2,03
Question 12	1,88	1,75	0,527			1,29	1,51
Question 13	2,84	2,39	0,024	-2,26	0,13	1,81	1,92
Question 14	3,48	3,33	0,481			1,94	1,76
Question 15	3,33	2,44	0	-4,19	0,25	1,88	1,87
Question 16	2,79	2,05	0	-3,52	0,21	1,63	2,24
Question 17	2,86	2,22	0,002	-3,09	0,18	1,95	2,16
Question 18	2,9	2,17	0,001	-3,38	0,20	1,94	2,31
Question 19	4,16	3,14	0	-4,95	0,29	2,31	1,64
Question 20	3,28	2,76	U,025	-2,24	0,13	2,40	2,59
Question 21	1,55	1,43	U,972			0,91	1,41
Question 22	1,91	1,7	U, 196	0.15		1,46	1,/3
Question 23	3,52	3,87	0,034	-2,12	0,13	1,25	1,48
Question 24	2,26	2,55	0,116			1,/4	1,77
Question 25	4,03	4,17	0,274			1,30	1,26
Question 26	4,02	4 JU 3	0,583			1,32	1,67
Question 27	3,45	3,13	0,127			2,00	1,73
Question 28	د دعد	3,2	0,307			1,92	1,93
Question 29	3,62	3,2	0,092	1.00	0.00	2,46	1,05
Question 30	4,03	2,96	0	-4,88	0,29	2,20	1,51
Question 31	4,14	3,51	0,003	-2,99	0,18	2,45	1,74
Question 32	2,70	271	0,733			دد,∠ 1.00	2,32
Question 33	2,52	2,23	0,15			1,00	2,01
Question 34	2,71	2,51	0,405	2.70	0.17	∠,3U	2,14
Question 35	2.16	3 p2 3 a9	0,005	-2,79	U,17	1,74	1,23
Question 36	3,10	2,90	0,451			232	1.73
Question 37	ر, z 1 1 م	4 1 2	0,032			1 57	1,73
Question 38	4,13	4,12	0,091			0.84	0.88
Question 39	3.22	331	0,64			1.91	2.04
Question 40	3.45	304	0,626			231	2.04
Question 42	3,43	3/3	0,003	-1.98	0.12	2,51	1.68
Question 42	3,55	3,43	0,047	-1,50	0,12	2,40	1,00
Question 45	1 72	1.87	0,91			1 13	1 12
Question 45	3.66	3.82	0,200			1,13	1.63
Question 45	4 81	4 89	0,550			0.13	0.40
Question 47	4 43	4.5	0.343			0,78	0.67
Question 49	4,38	4 4	0.729			0.78	1.05
Question 49	4 4	4.48	0.648			0.85	1.05
Question 50	3,83	3,58	0.083			1.47	1,83
Question 51	3,02	3.16	0,441			2.04	1.77
Question 52	3.07	3.06	0,987			1.65	1.86
Question 53	3,88	3,75	0,343			1,63	1.72
Question 54	4,29	4,12	0,308			1,26	0,98
Question 55	2,95	3,12	0,369			1,89	1,73
Question 56	4,07	4,24	0,308			1,23	1,43
Question 57	2,88	2,76	0,537			2,10	1,79
					Average	1,7	1,7
Social Hierard	chies and Inte	eraction	2,7	2,8	0,01		
Self-Expressi	on and Ideals		3,0	2,5	0,14		
Feelings of In	rmersion		3,6	3 ,3	0,06		
Extrinsic Influ	lenæs		3,1	3,0	0,02		
Individual Fac	tors		3,7	3,6	0,00		
Economic Rat	ionale		3,3	3,1	0,03		
Skin-Centere	ators		4,4	4,4	0,00		
Game Center	earactors		3,5	3,5	U,00		

E.1.2 Comparison of effect of Gender in League of Legends Survey

Participants	Diverse	23					
	Female =	88					
	Male =	236					
	Total	324					
League	Mean Male	Mean Female	Significance	R	IEffectstrengthI	Variance Male	Variance Female
Question 1	2,5	2,36	0,383			1,60	1,66
Question 2	2,57	2,55	0,976			1,74	1,36
Question 3	2,84	3,1	0,108			1,78	1,58
Question 4	2,95	3,09	0,388			1,88	1,95
Question 5	3,81	4,24	0,005	-2,832	0,16	1,54	0,99
Question 6	3,7	4,06	0.019	-2.342	0.13	1,53	1,14
Question 7	2	1.84	0.334			1.34	1.10
Question 8	1.83	1.64	0.342			1.35	0.92
Question 9	4.51	4.35	0.406			0.63	1.06
Question 10	3 37	3.14	0,400			1.48	1,6
Question 10	3,51	2.66	0,170			1,10	1,0
Question 11	1 01	2,30	0,030			1,03	1,0
Question 12	1,01	1,73	0,512	2.54	0.20	1,41	1,20
Question 13	2,47	3,03	0	-3,54	0,20	1,07	1,3
Question 14	4,07	4,15	0,259			1,11	1,30
Question 15	2,91	3,33	0,01	-2,559	0,14	1,79	1,81
Question 16	2,31	2,85	0,002	-3,119	0,17	1,75	1,94
Question 17	2,72	3,18	0,01	-2,576	0,14	2,07	2,04
Question 18	2,37	2,73	0,037	-2,09	0,12	1,89	1,9
Question 19	3,59	3,84	0,112			1,67	1,45
Question 20	2,52	2,66	0,389			1,69	1,7
Question 21	1,36	1,28	0,44			0,58	0,40
Question 22	2,22	2,32	0,464			1,89	1,9
Question 23	2,68	2,49	0,2			1,66	1,68
Question 24	3,59	3,25	0,026	-2,221	0,12	1,66	1.6
Question 25	4,21	3,85	0,011	-2,546	0,14	1,23	1.60
Question 26	4.05	4.16	0.339			1.21	1.1
Question 27	3.03	3.69	0	-3,993	0.22	1.85	1.4
Question 28	3.26	3 27	0.93	0,550	0,22	1,53	1.5
Question 20	3.4	3.45	0.754			1,82	1,8
Question 29	3,4	3,43	0,734	4 000	0.37	1,03	1,00
Question 30	3,5	4,13	0.00	-4,002	0,27	1,00	1,0
	3,19	3,30	0,39			2,13	1,84
Question 32	2,31	2,15	0,34			1,80	1,8,
Question 33	2,33	2,31	0,942			1,/5	1,64
Question 34	2,86	2,65	0,192			1,91	1,66
Question 35	2,78	2,78	0,969			1,18	0,93
Question 36	3,43	3,4	0,866			1,61	1,5
Question 37	3,73	3,3	0,011	-2,544	0,14	1,87	2,14
Question 38	4,48	4,24	0,026	-2,23	0,12	0,95	1,20
Question 39	4,67	4,42	0,018	-2,366	0,13	0,43	0,8
Question 40	3,4	2,92	0,002	-3,093	0,17	1,30	1,73
Question 41	3,24	3,3	0,68			1,72	1,84
Question 42	3,43	3,62	0,195			1,61	1,59
Question 43	3,11	3,2	0,473			1,22	1,30
Ouestion 44	1.77	1.63	0.223			0.88	0.73
Question 45	3.43	3.24	0,181			1,55	1.43
Ouestion 46	4,84	4,83	0.846			0.19	0.1
Question 40	3,34	3 42	0.049	-1 972	0.11	1.74	1.61
Question 40	0,73	3.942	0,040	-1,273	11(0	1.24	1,0.
Question 40	3,64	3, 94	0,541			1,10	1,20
Question 49	3,83	3,80	0,386			1,01	1,01
QUESTION 50	2,2	2,28	0,55			1,67	1,63
Question 51	2,86	2,8	0,697			1,69	1,61
Question 52	3,28	3,03	0,059	-		1,43	1,33
Question 53	4,38	4,66	0,001	-3,368	0,19	0,67	0,41
Question 54	4,46	4,27	0,353			0,66	1,14
Question 55	3,89	3,91	0,758			1,40	1,1
Question 56	4,09	4,09	0,954			1,38	1,39
Question 57	2,38	2,41	0,8			1,86	1,8
Question 58	3,99	3,83	0,136			1,29	1,25
Question 59	3,89	3,9	0,685			1,46	1,1:
				Average	0.22	1.46	1.42
				cruge		2,70	
sodal Hierard Guis F	nes and Inte	raction	2,9	2,9	0,04		
self-Expressio	on and I deals		2,7	2,9	0,06		
⊢eelingsoflm	mersion		3,5	3,7	0,09		
Extrinsic Influ	ences		3,1	3,0	0,04		
Individual Fad	tors		3,8	3,5	0,10		
					0.00		
Economic Rati	ionale		2,9	2,9	0,00		
Economic Rati Skin-Centered	ionale dFactors		2,9 3,7	2,9 3,7	0,00		

E1.3. Comparison of effect of Gender in Guild Wars 2 Survey

	Mean Age 1	Mean Age 2	Mean Age 3	Asymp. Sig.	Group 1+ :	2 Z Value	R	Group 2+3	Z Value	R	Group 1+3	3 Z Value	R
Question 1	2,61	2,21	2,09	0,038	0,029	-2,178	0,14	0,529			0,027	- 2,208	0,19
Question 2	3,47	3,06	2,8	0,012	0,3	-2,173	0,14	0,227			0,004	-2,88	0,24
Question 3	3,36	3,12	2,6	0,007	0,168			0,022	-2,288	0,16	0,002	- 3,109	0,26
Question 4	2,65	2,39	2	0,022	0,165			0,062			0,006	-1,387	0,12
Question 5	3,28	3,12	2,95	0,345									
Question 6	3,2	3	2,98	0,6									
Question 7	1,89	1,86	1,78	0,816									
Question 8	2,47	2,21	2,11	0,188									
Question 9		3,85	3,69	0,293									
Question 10	3,01	3,70	3,47	0,404									
Question 12	1.97	2,83	2,0	0,030									
Question 12	2.66	2.36	2 49	0,105									
Question 14	3,39	3.47	3.09	0.213									
Question 15	2.88	2.58	2,42	0.115									
Question 16	2,32	2,27	1,98	0.345									
Question 17	2,49	2,44	1,98	0,111									
Question 18	2,47	2,45	1,84	0,23									
Question 19	3,33	3,43	3,24	0,637									
Question 20	2,95	2,97	2,49	0,147									
Question 21	1,59	1,41	1,44	0,424									
Question 22	1,87	1,72	1,71	0,667									
Question 23	3,68	3,79	4	0,656									
Question 24	2,39	2,54	2,51	0,696									
Question 25	4,04	4,25	4,07	0,324									
Question 26	4,08	3,99	4,04	0,603									
Question 27	3,44	3,09	3,13	0,169									
Question 28	3,31	3,2	2,82	0,103									
Question 29	3,4	3,42	2,85	0,038	0,854			0,014	-2,452	0,17	0,03	-2,143	0,18
Question 30	3,38	3,23	2,89	0,143									
Question 32	3,02	00,0	3,30	0,375	0.138			0.095			0.01	-2.78	0.23
Question 22	2,02	2,03	1.89	0,024	0,130			0,095			0,01	-2,70	0,25
Question 94	2,40	2,55	2.07	0,030									
Question 35	3.74	3.74	3.58	0,617									
Question 36	2,96	3,12	2,82	0.304									
Question 37	2,54	2,93	2,96	0,092									
Question 38	4,01	4,19	4,18	0,375									
Question 39	4,4	4,5	4,47	0,463									
Question 40	3,02	3,37	3,55	0,124									
Question 41	2,98	3,23	3,05	0,318									
Question 42	3,75	3,48	3,36	0,206									
Question 43	3,64	3,32	3,33	0,238									
Question 44	2	1,72	1,91	0,153									
Question 45	3,65	3,77	3,96	0,312									
Ouestion 46	4,84	4,89	4,84	0,15									
Question 47	4,44	4,58	4,27	0,137									
Question 48	4,34	4,47	4,22	0,248									
Question 49	4,43	4,43	3.00	0,050									
Question 51	2,0 2 QA	3,17	3,29	0,129									
Question 52	3.18	2.98	3.04	0,130									
Question 53	3.89	3.81	3.56	0.283									
Question 54	4,26	4,21	3,89	0,12									
Question 55	3,18	3,26	2,53	0,003	0,701			0,001	-3,359	0.24	0,007	-2.677	0.23
Question 56	4,28	4,12	4,33	0,49				-,	-,	.,	-,	_,	-,
Question 57	2,64	2,84	2,85	0,548									
						Average	0,14			0,19			0,21
Age 1 = 14 - 19	85												
Age 2 = 20 - 25	145												
Age 3 = 26+	55												

E.1.4. Comparison of the Influence of Age on the League of Legends Survey

	Mean Age 1	Mean Age 2	Mean Age 3	Asymp. Sig.	Group 1+2	Z Value	R	Group 2+3	Z V alue	R	Group 1+3	Z Value	R
Question 1	2,85	2,52	2,34	0,043	0,127			0,22			0,013	-2,491	0,17
Question 2	2,74	2,64	2,51	0,53									
Question 3	3,26	3	2,84	0,149									
Question 4	3,71	3,05	2,86	0,003	0,01	-2,569	0,20	0,222			0,001	-3,387	0,23
Question 5	4,38	4,11	3,78	0,002	0,254			0,006	-2,735	0,16	0,004	-2,911	0,20
Question 6	3,74	3,83	3,81	0,793									
Question 7	1,88	2,13	1,88	0,108									
Question 8	1,79	1,82	1,77	0,912									
Question 9	4,24	4,58	4,43	0,123									
Question 10	3,44	3,45	3,13	0,04	0,856			0,015	-2,421	0,14	0,17		
Question 11	3,06	2,84	2,59	0,092									
Question 12	1,71	1,9	1,77	0,44									
Question 13	3,12	2,53	2,61	0,041	0,13	-2,473	0,19	0,552			0,027	-2,217	0,15
Question 14	4,41	4,13	4,06	0,194									
Question 15	3,47	3,25	2,82	0,003	0,419			0,005	-2,835	0,16	0,009	-2,631	0,18
Question 16	2,71	2,64	2,32	0,067									
Question 17	3,15	3,07	2,68	0,033	0,807			0,019	-2,349	0,13	0,084		
Question 18	2,79	2,7	2,33	0,43	0,707			0,029	-2,178	0,12	0,074		
Question 19	3,76	3,74	3,6	0,585									
Question 20	2,53	2,74	2,47	0,236									
Question 21	1,41	1,33	1,32	0,909									
Question 22	2,76	2,26	2,22	0,088									
Question 23	2,44	2,61	2,73	0,385									
Question 24	3,44	3,33	3,56	0,385									
Question 25	4,32	4,14	4,06	0,398									
Question 26	4,38	3,92	4,04	0,45									
Question 27	3,97	3,21	3,12	0,003	0,003	-2,961	0,23	0,623			0,001	-3,361	0,23
Ouestion 28	3,62	3,23	3,23	0,191									
Question 29	4,21	3,46	3,3	0,001	0,002	-3,067	0,24	0,283			0	-3,707	0,26
Question 30	4,32	3,86	3,54	0,001	0,043	-2,024	0,16	0,017	-2,387	0,14	0,001	-3,475	0,24
Question 31	4,12	3,33	3,1	0,001	0,009	-2,628	0,20	0,13	-1,514	0,09	0	-3,958	0,27
Question 32	2,03	2,32	2,35	0,58									
Question 33	2,26	2,39	2,34	0,955									
Question 34	3,26	2,8	2,82	0,216									
Question 35	3,29	2,83	2,68	0,011	0,021	-2,312	0,18	0,258			0,004	-2,892	0,20
Question 36	3,56	3,42	3,43	0,868									
Question 37	3,47	3,52	3,72	0,573									
Question 38	4,58	4,36	4,48	0,587									
Question 39	4,47	4,53	4,67	0,095									
Question 40	3,32	3,17	3,34	0,482									
Question 41	3,44	3,2	3,25	0,66			_						
Question 42	3,65	3,39	3,6	0,339									
Question 43	3,47	3,14	3,13	0,233									
Question 44	1,82	1,72	1,71	0,737									
Question 45	3,5	3,42	3,31	0,457									
Question 46	4,97	4,81	4,84	0,119									
Question 47	4,15	3,73	3,55	0,004	0,4			0,101			0,001	-3,324	0,23
Question 48	4,06	3,8	3,91	0,694									
Question 49	3,97	3,97	3,75	0,163									
Question 50	2,12	2,39	2,16	0,36									
Question 51	3,21	2,85	2,81	0,257									
Question 52	3,38	3,3	3,18	0,608						-			
Question 53	4,74	4,46	4,44	0,76									
Question 54	4,58	4,44	4,36	0,379									
Question 55	3,91	4,01	3,83	0,327						-			
Question 56	4,29	4,16	4,01	0,101									
Question 57	2,62	2,36	2,49	0,589									
Question 58	4,21	3,89	3,96	0,103									
Question 59	4,18	4	3,8	0,069									
						Average	0,20			0,13			0,22
Age1 = 13 - 20	34												
Age 2 = 21 - 26	132												
Age 3 = 27 +	176												
1+2	166	10 8940007											
2+3	200	17 5/10010987											
∠+J 1+3	208	14 4019747											
T 40	210	14,4313/0/	1										

E.1.5. Comparison of the Influence of Age on the Guild Wars 2 Survey