



MIKKO AALLO

**The fascination of virtual skins and  
consumers buying behaviour in  
Counter Strike Global Offensive**

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<p>The objective of this thesis was to find out the fascination of virtual skins in Counter Strike Global Offensive. What are the thriving factors in buying, selling or trading? The market for skins is massive and unknown to many. Is there a correlation with esports and skins and if so, how big of an impact do the Majors have in the market. Majors are the biggest tournaments of the year and the player and teams who participate, receive their own stickers and autographs in the game.</p> <p>Video gaming has been a part of our lives for more than 50 years already but eSports as a whole is still fairly new industry. The author believes it will be even bigger in the future and possibly an Olympic sport as well. The market for skins is also a positive thing that gets people and players excited as some of the skins today could be worth thousands tomorrow. Not just for Counter Strike, but for other games as well.</p> <p>The author conducted the research on the subject and found out very interesting points regarding the market. The thesis started with an insight on eSports as an industry and the game itself, Counter Strike. A 5v5 FPS game with a huge market behind it with skins. The research on customer behaviour is really important, developers need to know what makes an ideal target customer for the game and skins. How has a free-to-play game come so far as to be one of the biggest games in the world. The author believes it would not be like this without the introduction of skins back in the Arms Deal update in 2013.</p> <p>The results from the questionnaire were somewhat expected regarding the predictions made before and therefore the research proved to be very succesful. The more experienced a player is, it leads to having a more expensive inventory of skins. European players have a bigger inventory compared to others. 3<sup>rd</sup> party websites are immensely popular and by far the biggest way of obtaining the most expensive skins. The websites are accessible to anyone with a steam account and a phone so it is super simple to start buying, selling and trading skins. For profit or for the consumer. These sites and skins overall made the game what it is today.</p>		
Keywords Buying Behaviour, Counter Strike, Skins, Esports		

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## 1 INTRODUCTION

This thesis is related something that the author likes, video games. The author has always enjoyed competing, whatever was at stage, no matter the subject, the author has always wanted to win. That is why competitive video gaming and especially Counter Strike has been a huge factor in the authors life. Now the author hopes to catch new eyes to a dear topic for the author and open up an interesting and big business world behind it.

Video games have been around since the end of 1950's when the first game was created and fast forward to today, video games are a \$180 billion business and of that number PC games obtain a \$70.8 billion market. Video games skyrocketed to in demand with the release of the first PlayStation consoles back in 1994 with over 100 million copies sold and its predecessor PlayStation 2, released in the year 2000, the best-selling console of all time with 157 million copies.

In this thesis the author will go through the details of one game specifically, Counter Strike Global Offensive and its huge market of skins. Skins are digital overlays for your weapon. Skins do not give out any advantages for the player itself, skins just give the player a different paint finish on the weapon, hence the name, skin. The market is trending upwards, and skins are more popular than ever and so is the game as well, a major tournament is being played while authoring this thesis, this is the perfect time to do research and find points on what makes a skin so desirable.

The author's research will look at which factors are crucial to the consumer when buying a skin. What for, how, when and why is the skin obtained. Esports are blooming and growing year by year as well. The research will look if there is any link between Esports and skins.

The thesis will go through problem setting and conceptual framework for the topic. Video games, Counter Strike and eSports will be discussed in detail on what is the industry like and how big it really is. Consumer behaviour and customer segmentation is researched and the importance of e-commerce and what it means to Counter Strike. The games business model runs purely on skins and extra content and is done through micro-transactions. Skins which are weapon visuals for the game are explained thoroughly, what they are, what they do and all the possible ways how to acquire a skin. Research methods and design is presented before the research findings and analysis of the data.

## 2 PROBLEM SETTING AND CONCEPTUAL FRAMEWORK

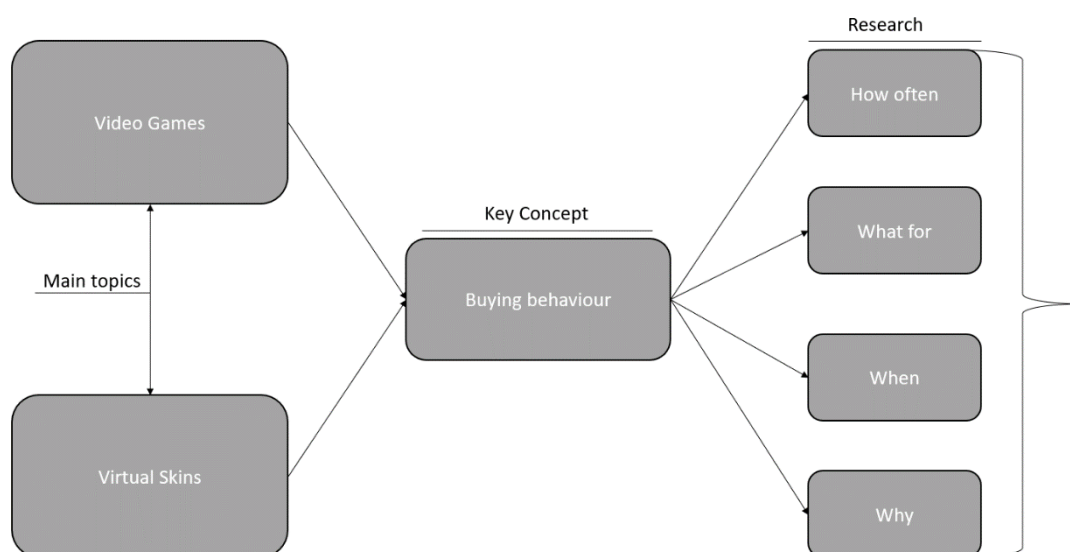


Figure 1. Conceptual framework. (Author of thesis, 2022)

Videogames, in this case Counter Strike Global Offensive or as the author will refer it as CS:GO. CS:GO Skins and their connections with buying behaviour. CS:GO has evolved from a game to a huge market with skins. Most expensive skins sold go up to 200 000€ and the lowest are 0,03€ and the market is blooming and changing with the metas of the game.

In this report there is a research problem, how, why and what for the consumer spends money on a video game that is free to play and to find reasons and main points to obtain, trade or sell a skin. What are the reasons skins are so desirable, is it the value of the skin, the looks or the prestige of owning something other players admire, the attention. The survey also touches on Esports and their effect on the skin market. Does a consumer buy, trade or sell his skins more during a Major tournament on CS:GO.

The research in this case is within the purchasing and obtaining the skins, how often is a skin purchased or traded, is it on going, investing/trading or a new case or collection or just some skin that sparks a purchasing decision. What for is a point that is kind of self-explaining, what is bought for, trading or actual use of the skin. When is it bought, is the player active or just once in a while, also here is a point to be research that is there a connection with esports and their events/tournaments. Why is a point to find out the customers wants and needs. The survey will give insight information on the topic and interesting data to process.

### 3 VIDEO GAMES, COUNTER-STRIKE AND ESPORTS

#### 3.1 Video games and the consumer

It all started from the Long Island nuclear research laboratory back in 1958. American physicist William Higinbotham invented a game, Tennis for two, as a form of entertainment within the laboratory which revolutionized gaming forever as two players could play against each other in real time and not on turn-based gaming. Even though the game was primitive, it offered a tasty idea of using technical equipment for more than work. (Kraneis & Rantala, 2010, p. 10)

Video games have been around for decades, providing entertainment for children and adults alike. They have evolved significantly from the early days of computer games and the first versions of Nintendo and Atari and the previously mentioned Tennis for two. The days of pixelated screens and limited sounds are a distant memory as video

games have become more lifelike than ever. As technology continues to improve so do video games. (Beattie, 2021) Although computers were initially intended as business devices, it became clear swiftly that they could also be used to entertain the users. While early games were single-user activities, games later became ways to connect and engage audiences and consumers. (Dahl, 2015, p. 96)

What then is a video game? In order to provide a basic level of knowledge for the chapters ahead their answer to the question would be important. The short answer to this query could be that it is a special kind of digital entertainment in which the gamer interacts with a digital interface and is faced with challenges of various kinds, depending on the plot of the game. (Wilson & Zackariasson, 2012, p.5) Below are six features that the definition of a video game consists of which are shown below.

1. Rules. Games are rule-based.
2. Variable, quantifiable outcome. Games have variable and or quantifiable outcomes.
3. Valorization of outcome. The different potential outcomes of the games are assigned different values, some positive and some negative.
4. Player effort. The player exerts effort in order to influence the outcome. (Games are challenging.)
5. Player attached outcome. The player is emotionally attached to the outcome of the game in the sense that a player will be a winner and happy in the case of a positive outcome, but as a loser and unhappy in the case of negative outcome.
6. Negotiable consequences. The same game can be played with or without the real-life consequences.

As a consumer, there are many options on how you want to play and what do you want to play, the options and combinations are limitless. Do you want to play on the go? There are multiple handheld devices and the most usual option, smartphone. Mobile phones cover over 50% (\$93.2 billion) of the global games market. (Wijman, 2021) Playing on a PC, laptop or with any console available on the market, it is the consumers choice. There are many different genres and one for everyone, everything from single player games such as the Sims franchise to the huge MMORGP's (Massively



Multiplayer Online Role-playing Game) such as World of Warcraft and everything between. All of the genres have subgenres as shown in Figure 2 below and belong in something easier to understand for example Action- or Strategy games.

GENRES		
Action	Role-Playing	Strategy
Action Rogue-Like	Action RPG	Card & Board
Arcade & Rhythm	Adventure RPG	City & Settlement
Beat 'Em Up	JRPG	Grand & 4X
Fighting & Martial Arts	Party-Based	Military
First-Person Shooter	Rogue-Like	Real-Time Strategy
Platformer & Runner	Strategy RPG	Tower Defense
Third-Person Shooter	Turn-Based	Turn-Based Strategy

Figure 2. Genres. (Steam, 2022)

Most sold and trending games currently have a pattern, the game is most likely to be free-to-play or cheap. The most popular Esport titles and most played games at the moment or almost all of them are free-to-play and follow the same business model on selling skins and other in-game content, microtransactions. Currently six of the top ten most trending games are free-to-play which can be seen from Figure 3 below. (Steam, 2022) And this is only on Steam, the largest gaming platform for PC gaming. Other big games such as Fortnite and League of Legends, which are not on Steam but have their own clients are free-to-play as well.

enter search term or tag		Search	Sort by	Relevance
123,687 results match your search.				
	Counter-Strike: Global Offensive		21 Aug. 2012	Free to Play
	V Rising		17 May, 2022	19,99€
	Stellaris		9 May, 2016	39,99€
	Lost Ark		12 Feb. 2022	Free To Play
	Apex Legends™		5 Nov. 2020	Free to Play
	FIFA 22		1 Oct. 2021	59,99€ -84% 9,59€
	ELDEN RING		25 Feb. 2022	59,99€
	Path of Exile		23 Oct. 2013	Free to Play
	Destiny 2		1 Oct. 2019	Free To Play
	War Thunder VR Supported		15 Aug. 2013	Free to Play

Figure 3. Top 10 Most Trending Games. (Steam, 2022)

### 3.2 Video games as an industry

Video Games as an industry was a \$180 billion business in 2021, up 1.4% over last year's result in 2020. The industry like many others suffered from the COVID-19 pandemic yet it still made growth. Many games were cancelled or postponed due to the pandemic, yet the old games kept the business thriving. Mobile gaming has been in the rise last year while consoles and PC gaming are behind by a lot yet those two have the most devoted community supporting them. Mobile gaming as a whole can be spontaneous and with very tiny purchases but with a huge crowd, the tiny purchases become a huge market together. Mobile gaming is wildly more popular in Asia than in any other region in the world, as the largest continent by population, this is also a key factor to mobile gaming being the biggest market amongst gaming.

The percentages might get closer as at the end of 2021, both Sony and Microsoft, two tech giants released their new consoles, PlayStation 5 and Xbox Series X respectively but suffered due to the pandemic. Supply of the new consoles has been short and demand high ever since. (Wijman. 2021)

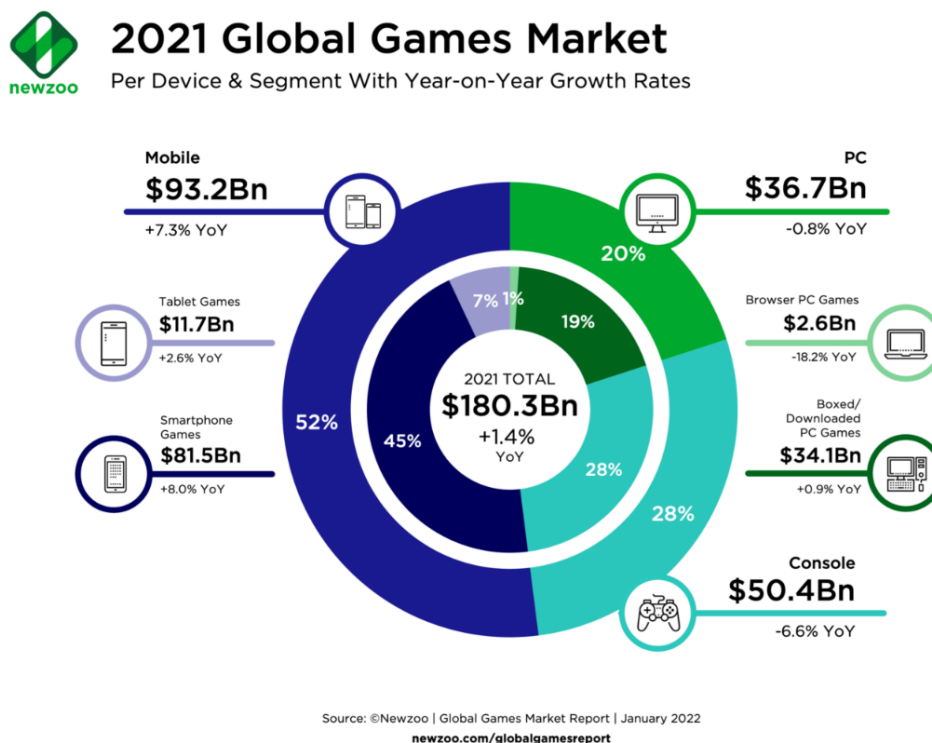


Figure 4. Global Games Market. (Newzoo, 2022)

### 3.3 Evolution of the industry

Video games used to operate like big budget films. The games underwent years of development with rigorous testing and debugging before the final product was released. Then the industry was revolutionized by the concept of online connectivity. additions such as downloadable content (DLC) proved to be instrumental in getting gamers to pay for products after the game had already been released. DLC is a part of gaming secondary market and precursor to what the gamers know now as microtransactions. Microtransaction is a business model where users can purchase virtual items for lesser amounts of money. microtransactions often appear in free to play games, meaning there is no cost to download the game just a cost to buy the online virtual products, such as skins in CS:GO. (Colagrossi, 2021)

The true impact of microtransactions becomes apparent when one considers the benefits of creating persistent, repeated player engagement. In Much the same way that arcades made billions in the 1970s and 1980s off of the pocket change of their patrons, many digital games today generate hundreds of thousands of dollars one microtransaction at a time. (Hart, 2017, p. 62)

The video game sector is immensely large. In fact, it is larger than the movie and music industries combined, and it's only growing. Though it doesn't get the same attention that the movie and music industry does, there are over two billion gamers across the world. That is 26% of the world's population. (Beattie, 2021)

CS:GO launched in back 2012 at 12,99€, a cost that does not qualify as free to play but it's a small relative to the 50€ to 60€ prices for most games back then, while not being free to play the game was wildly popular but in December of 2018 the game was made fully free to play and after two years of being free to play CS:GO became the most played game on Steam history to date.

On other games it is often to have an in-game currency such as V-bucks in Fortnite or Riot points in League of Legends, both of them which can be used within their games store to buy virtual content such as skins or battle passes which give out content.

### 3.4 Counter Strike Global Offensive

Counter-Strike Global Offensive expands upon the team based first person shooter gameplay the original Counter-Strike pioneered when it launched in 1999. Two teams compete in multiple rounds of objective based game modes with the goal of winning enough rounds to win the match. With the game being over 20 years old the newest version features new maps, characters and weapons and delivers updated versions of the classic Counter-Strike.

By far the most popular game mode is competitive, this is the classic game mode that put Counter-Strike on the map, two teams of five players compete in a best of 30 rounds match using standard competitive Counter-Strike rules. Players must purchase armor, weapons, defuse kits and manage their in-game economy to maximize their chances of success. (Counter-Strike, 2022)

It would be almost impossible to find a first-person shooter player who hasn't heard of Counter Strike, the game can be considered as the ancestor of all FPS games that came before it while the gameplay of the two-decade old title hasn't changed in any significant way she's go did something else to keep up with the times, skins.



Figure 5. Active Player Count of CS:GO. (Steamcharts. 2022)

Before microtransactions, downloadable content, or in game advertising take hold in a game, that game must have an established user base. (Hart, 2017, p.27) CS:GO achieved this by being a great game before releasing skins.

CS:GO is the most popular game played on Steam, the leading PC gaming platform. The average and peak player base has slowly risen throughout the years, most notably when skins were added, the game began to rise in popularity reaching a peak in April 2020 when COVID19 struck. (Steamcharts, 2022)

### 3.5 Business models

The traditional model of selling video games is hard copies. This is still the case for console gaming at least for now, yet all different console providers, Sony and the PlayStation, Microsoft and the Xbox and Nintendo with their Switch and Wii consoles have their own in game stores which sells games that you can download from the comfort of your home via the Internet. The process is simple as the consumer simply pays and downloads the game. For PC games it was the same before, hard copies but most transactions are done through Steam or other similar platform. The switch has been more radical on PC. Speaking from a personal experience having been involved in PC gaming since 2014, the author has never purchased a hard copy to date and most likely never will. Figure 6 below shows the distribution of digital vs. hard-copy games and in Figure 7, the games uploaded to Steam yearly.

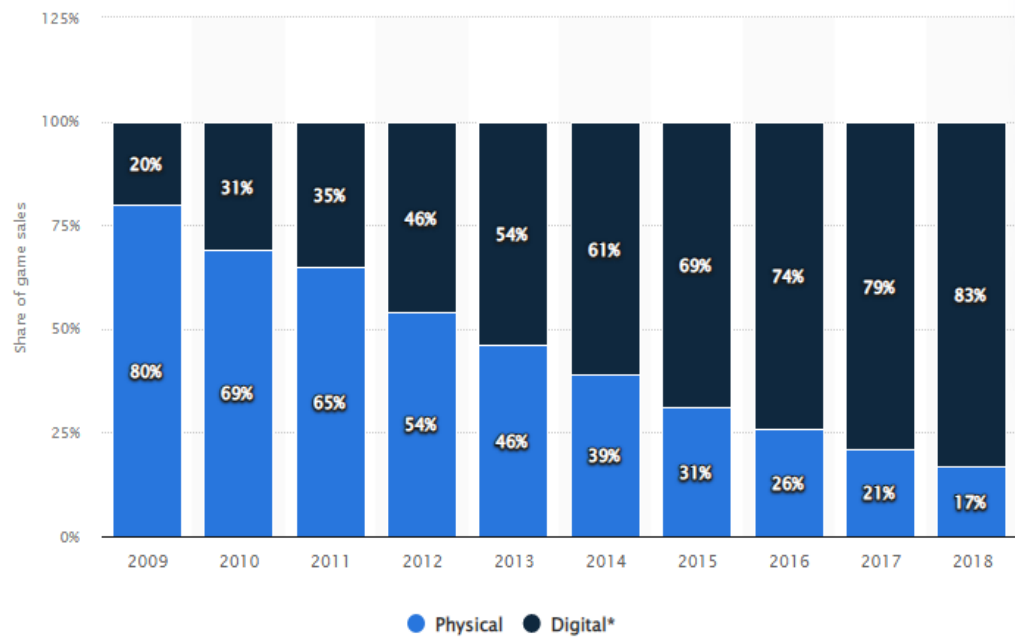


Figure 6. Distribution of video games in the US 2009-2018. (Statista, 2018)

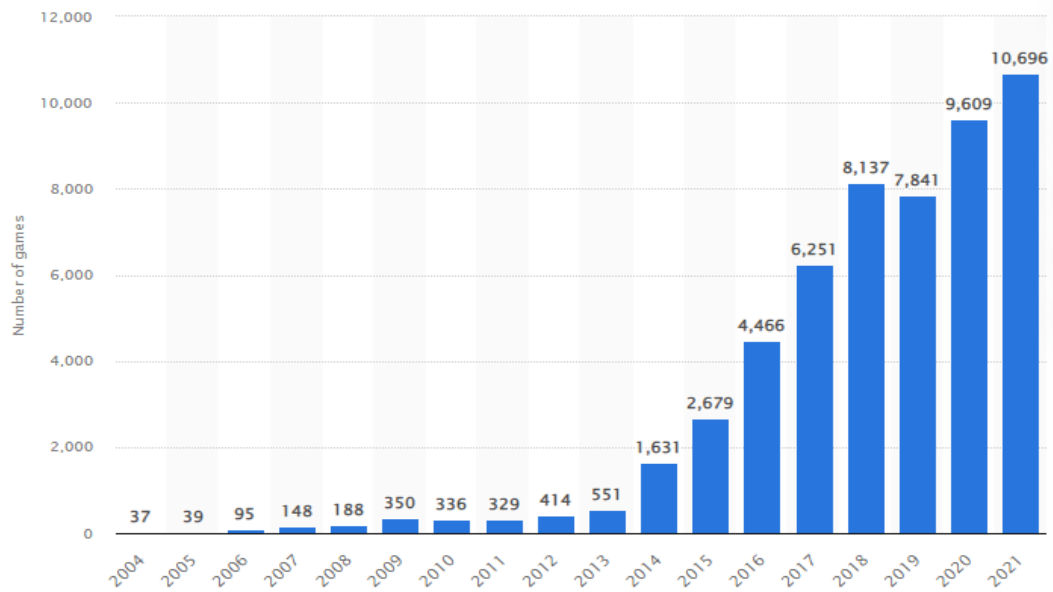


Figure 7. Games uploaded to Steam 2004-2021. (Statista, 2021)

### 3.6 Esports

Electronical sports or esports for short is competitive videogaming. Esports has skyrocketed within the last 10 years from playing in small internet cafes with your friends and playing from your room to a worldwide phenomenon filling up the biggest

arenas and stadiums across the globe. The industry has grown into a huge business and will continue to grow within the future as well. (Rönkä, 2018, p.10)

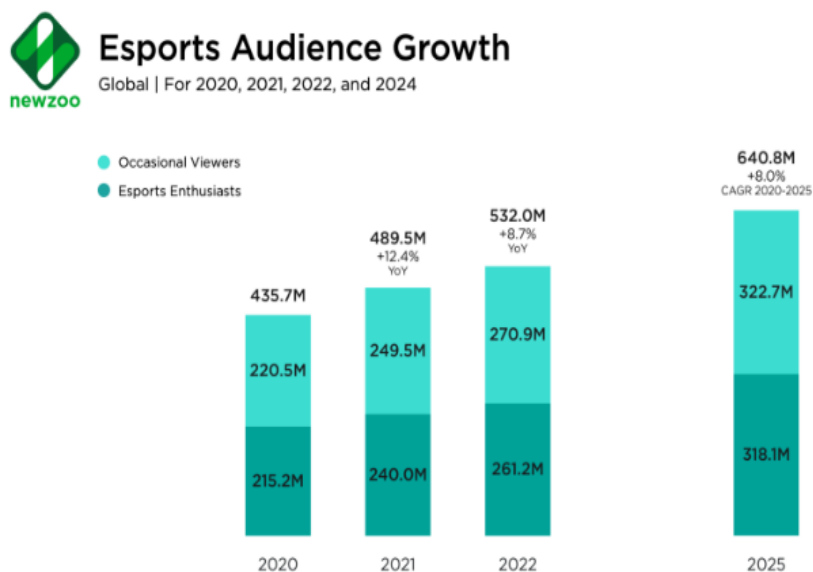


Figure 8. Esports Audience Growth. (Newzoo, 2022)

This year is on track to be another impressive year for Esports audience growth. In 2022 the global esports audience will grow by +8.7% year on year to reach 532 million viewers. The difference between an Esport enthusiastic and occasional viewer is truly little as the number stands at 261 million for the Esport enthusiastic and 271 million for the occasional viewer, That's only a difference of 10 million. The main drivers behind Esports audience growth are popular new Esport franchises such as Valorant, an FPS game as well, build on Riot's previous successes and experience from League of Legends, which is by far the most successful Esport ever. (Wijman, 2022) A thriving factor to growth is the fact that finally, after two years of online play, the players and teams are getting back to the stage, live in front of a crowd, when the pressure, atmosphere, excitement, prestige and just the overall experience for the players and the audience is so much better than online play.

The future of esports is huge and it will be an Olympic sport within the next few Olympics. Esports will make its official debut at the Asian Games 2022 with medals being awarded in eight games. Esports was a demonstrated event at the previous 2018 Asian Games, which means that the medals won by competitors did not count towards the final medal tally of each competing nation. (Venkat, 2021)

The International Olympic Committee lended its support this year to the first ever ‘Olympic virtual series’, A group of Esports events in the run-up to the Tokyo Games. The IOC said 2024 is premature to include Esports but the door is open for 2028, when the games will be hosted in Los Angeles. The truth is that neither side needs the other, yet. If Esports do join the Olympics in our lifetimes, it will be because of money. the IOC makes a lot of it ,but should that ever run dry, it knows where to go to get an influx of cash. (Epstein, 2021)

In a recent interview with The Big Whale, a French newspaper focusing on cryptocurrencies and all things internet, the French President Emmanuel Macron Said the following “ We have a historic opportunity: the 2024 Olympic Games. It is up to us to take full advantage to establish a link between two worlds by hosting the world’s greatest sporting events: CS:GO Majors, Worlds of League of Legends and The International of Dota 2. If the French trust me, we will work on it as soon as I am elected.” (TheBigWhale, 2022)

These are the three biggest esports tournaments which are hosted every year in various places around the world, filling up arenas and streaming sites which have huge viewership’s. This is great and a huge step forward with the esports in the western world. Macron was re-elected this year so now the esports world just have to wait and see if promises are fulfilled.

### 3.6.1 Going pro

Going pro as a video game player might sound easy, most of the people outside of esports still feel pro playing is still “just playing”, deep down it is way more than chucking down energy drinks and staring and at a screen in your room. No one is born nor go pro overnight, for example no one becomes a top footballer or a great guitar player by just playing. (Rönkä, 2018, p.28) The best players have multi-million salaries and they have committed a lot of hours to their specific game. The best players have 10000-20000h played on CS:GO that was released back in August of 2012, let’s put an average hours of a pro player at 15000h, that number totals to 625 days of gaming.



Nearly a fifth of the whole time CS:GO has been around, take away sleep that's half of the time, so fair to say the best play and train at least half of their day like a normal 9-5 job would, then add team meetings and such, it its way more than a 9-5 job.

### 3.6.2 Esport organizations

The infrastructure and business behind the players are the organizations and they are big and worth a lot of money and involve a vast number of employees within the organization such as marketing, B2B sales, HR and outsourced people like medical staff and lawyers.

Forbes annual listing of the most valuable organizations had Team SoloMid, TSM for short, a North American organization worth \$540m. TSM constructed a huge gaming facility in the city of Los Angeles, USA, with open office space, streaming rooms, kitchen, outside area, meeting rooms, scrim rooms which are for the pro players to use and practice, a café and a merch store. The 2322 square meter gaming facility cost \$50 million making it the most expensive facility in the world. (TSM, 2022)

The top ten are worth an average of \$353 million, up 46% from 2020, but most rapidly diversifying their businesses as they face down the industry's challenges. (Knight, 2022)

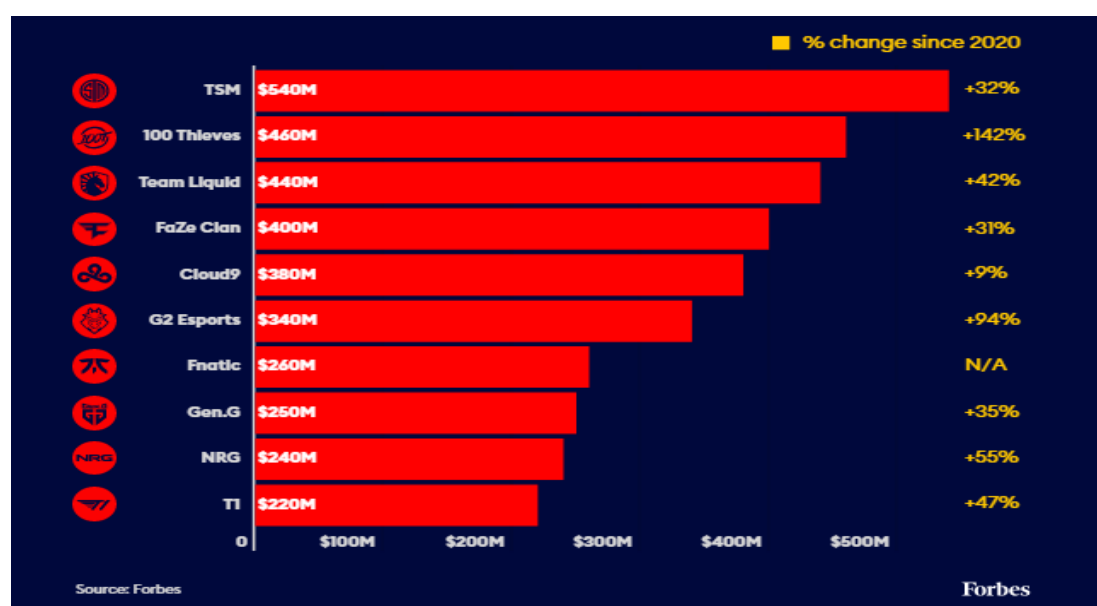


Figure 9. Most Valuable Organizations. (Forbes, 2022)

Figure 9 above shows the top ten most valuable esports organizations, it is an interesting graph on where esports is blooming and heavily being invested in. All of the top five are based in North America which tells us who is leading at the moment, NRG is also North American at nine which makes the total 6/10. Numbers six and seven are European and eight and ten is Korean. (Knight, 2022)

Even though the business is bigger, competitively Europe has always fielded the best teams and has more success than North American teams, but it may change in the future, players from EU are tempted to go to a North American organization due to much higher salaries and facilities than in Europe everyone is a human and money is a key factor in life. With the Covid-19 pandemic, all competition was held online so worldwide competition was off for 2 years and teams played in Europe, and it changed CS:GO forever as some North American teams relocated to Europe which was a major blow to the regional competition in North America from which it is still recovering.

## 4 CONSUMER BEHAVIOUR

### 4.1 Customer segmentation

Consumer buying behaviour is a process and buying behaviour concerns the products and services customers buy and use and the ways these fit into our lives. The consumers can be categorized in terms of their age, gender, income or occupation. Knowledge of consumer characteristics plays an extremely significant role in many marketing applications, such as when a manufacturer defines the market for a product, or an advertising agency decides on the appropriate techniques to employ when it targets a certain group of consumers. (Solomon, 2018, p.29)

Companies are operating in an increased competitive environment; therefore, sellers must try to understand customers' needs and influence them to buy their product and

services. (Turban et al., 2016, p.49) In this case, it is rivaling games, their skins and in-game content.

As previous sentence states, consumers can be divided into finding your ideal consumers for the product or service. The author will go into bit more detail on how and what are useful and relevant in this particular thesis demonstrated below.

### **Geographics**

Country:

Which country is the customer from? Is the player base big from that country? Does it have any potential to grow to a market? These questions are crucial for the developer which in this case is CS:GO. Some markets are simply more profitable than others as they are more developed therefore there is more money to be gained and with more money the country is more technologically advanced which gives players a good base. Games such as CS:GO are meant to be played with good gaming PC's and a laptop simply is not going to cut it. As well geography matters in the case of viewership and events. Historical Esports venues such as the Katowice Arena or Cologne's Lanxess Arena, which is named the "Cathedral of Counter Strike" sells out year after year compared to other nations events which might struggle to fill out the arena.

Language:

Is the player multilingual? Is the game published with their language or not? For some consumers this can lead to the consumer not playing the game. Is the market big enough to satisfy and code the game into their language.

### **Demographics**

Age:

Consumers of different age groups obviously have different needs and wants. although people who belong to the same age group differ in many other ways they tend to share a set of values and common cultural experiences that they carry throughout their lives. Games are played more by the younger generations.

**Gender:**

Like many other products and industries on the market, some are meant for males and some for females. Although many games today are produced to be consumed by both genders, males on average consume and play more video games than females. There are also games purely designed for men and as well purely for women although of course they can be played by both genders.

**Income:**

Different markets are more profitable some parts of the world that it would be in another. For example, mobile's and mobile phone gaming is way more popular in Asia than the rest of the world.

**Education:**

Throughout the world, there are Esports leagues designed purely to be played with high school communities such as the Students' Championship in Finland or College leagues in USA.

**Occupation:**

Is the consumer working? How much time does he have to play a game and consume the product. Does the consumer have money to spend to purchase or game or if the game is free-to-play, does he have the funds to purchase in-game content?

Life Stage: What state of life is the consumer in. To some degree, this goes with age as well, is the consumer under 18 and living at home, studying or working yet living on his own, or is the consumer married or has children.

**Psychographics****Lifestyle:**

Consumers also have different lifestyles, even if they share other demographic characteristics such as gender or age. People value different things, their time and how they like to spend it.

AIO: (Activity, Interest, Opinion)

How active the consumer is, how often he plays, how interested he is in playing, how interested he is in the different genres of gaming and how much the customer values the game.

Personality:

What kind of game does the consumer want to play? A highly competitive Esport title or a casual game? is the consumer an introvert or an extrovert? Does the consumer want to play alone or connect with others to play the game

#### 4.2 Customers' needs and wants on e-commerce

In this thesis online shopping is truly relevant. Every microtransaction, buying, selling or trading a skin, would it be through Steam or through a third-party website is online shopping, e-commerce. Therefore, it is crucial for both Steam and third-party skin sites to have a great software, coding and websites to keep the customers using their services. Below are four factors that the word predictive of customer judgements about quality and satisfaction, customer loyalty and attitudes towards a website.

##### **Website design**

This covers all elements of the customer's experience at the website including navigation, information search, order processing, appropriate personalization and product selection.

##### **Fulfillment and reliability**

This involves the accurate display and description of a product so that what customers receive is what they thought they ordered and secondly the delivery of the right product within the time frame promised.

##### **Privacy and security**

This involves the security surrounding credit card payments and the privacy of shared information.

### Customer service

This needs to be responsive, helpful and willing service with a quick response time to customer enquiries.

(Solomon et al., 2006, p.316)

Benefits of e-commerce	Limitations of e-commerce
<p><b>For the consumer</b></p> <ul style="list-style-type: none"> <li>Shop 24 hours a day</li> <li>Relevant information in seconds</li> <li>Greater price information</li> <li>Fast delivery</li> <li>Electronical communities</li> </ul>	<p><b>For the consumer</b></p> <ul style="list-style-type: none"> <li>Lack of security</li> <li>Fear of fraud</li> </ul>
<p><b>For the marketer</b></p> <ul style="list-style-type: none"> <li>Decreases costs of doing business</li> <li>Real-time pricing</li> <li>Specialized business can be very succesfull</li> </ul>	<p><b>For the marketer</b></p> <ul style="list-style-type: none"> <li>Fearce price competition</li> <li>Must maintain a site 24 hours a day</li> </ul>

Figure 10. Benefits and limitations of e-commerce. (Author of thesis, 2022)

### 4.3 Word of mouth communication

Despite the abundance of formal means of communications such as newspapers magazines and television, information about the world is conveyed by individuals on an informal basis. if you think carefully about the content of your own conversations in the course of a normal day, much of what you discuss with friends family members or coworkers is product related. Whether you compliment someone on her dress and ask her where she bought it, recommending a new restaurant in town, this is engaging in word to mouth communication. This kind of communication can be an efficient marketing tool. Information obtained from those who we know or talk to directly tends to be more reliable and trustworthy than that received through more formal channels and unlike advertising it is often backed up by social pressure to conform in these recommendations. (Solomon et al., 2016 p. 368)

The more positive information consumers get about a product from peers, the more likely they will be to adopt the product, this can be seen in Chapter 5.5 with the authors hype cycle named "The simple effect". As if the best player in the world is using a certain skin why should not you use it as well as a consumer or as a player. Even though it does Not give any competitive edge, now the knife has a prestige, a value to it.

Word of mouth is a two-edged sword that can cut both ways for marketers, informal discussions among consumers can make or break a product, service or a store. Consumers weigh negative word of mouth more heavily than they do positive comments. According to one study 90% of unhappy customers will not do business with the company again. each of those people is likely to share their grievance with at least nine other people, and 13% of those disgruntled customers will go on to tell more than 30 people of their negative experience. (Solomon et al., 2016 p. 370) In this thesis particularly it is crucial for third party skin sites to get their experience and customer satisfaction right and keep the consumer coming back to their side instead of the competitors website as the field is large with many skin sites.

#### 4.4 People, process and presence in the marketing mix

People, process and presence are elements of the marketing mix established to address the challenges of services marketing. In this case, Valve and the third-party skin sites want to design offers that help buyers evaluate choices pre-purchase and minimize feelings of risk. Both Valve and third-party skin sites want to help customers remember how much value they received from services. (Tuten, 2020, p.323)

##### 1. People

The people dimension of the marketing mix refers to the human participants in the service encounter, namely employees and customers. as humans, beliefs, attitudes, biases, behaviors, and all matter of humanness may play a role in the service experience. Technology has radically transformed the people dimension of marketing mix. It can replace or support human service providers improving standardization and

lowering costs. This is artificial intelligence or data modeling. dynamic personalization which delivers a more personalized and enhanced service to customers. Self-service empowers customers to complete service episodes on their own without human interaction. (Tuten, 2020, p. 323) In this thesis technology has over taking the human interaction when you are buying, trading or selling in either Steam's marketplace or third-party sites, . You are able to get this interaction with another human being if you are using any trading community.

## 2. Process

Process refers to the workflow by which the service is enhanced. These are any steps, procedures before and by either the employee or the customer throughout the service. each and every single service episode will have its own process. Some episodes will be prioritized over others by the by both consumer and brand depending upon their value potential and sensitivity. (Tuten, 2020, p.324) In this thesis, the process of buying, selling or trading a skin is similar or almost unique. The customer searches a skin by categorizing it either by skin quality, float value, price, the weapon itself and ends up with the possible skins in-front on the customers screen that fit the customers given filters on what the skin should be.

## 3. Presence

The final element in the marketing mix is presence. Traditionally this element was called physical evidence because it referred to tangible cues in the customers physical environment that influence perceptions. To accommodate the use of such evidence, whether in physical or virtual environments, we use the term presence. Presence is valuable in the marketing mix because it can influence behavior and brand perception, particularly when the product is intangible as skins are. (Tuten, 2020, p.324.)

Many skin sites promote themselves with content creators and even tournament organizers as well. most famously CS.money, arguably one of the biggest skin sites out there extended its partnership with BLAST Premier, one of the largest tournament cycles in the Counter-Strike professional scene. Together their collaboration has lasted for four years and will continue at least the whole of 2022. The author believes both



parties will want to continue their co-operation as both brands have gained much from another. Over the last few years, the partnership has become famous for its much-loved CS:GO skin content that features the world's best players taking part in number of challenges and games that highlight their knowledge and love for skins. (Narayan, 2022)

## 5 VIRTUAL SKINS

### 5.1 What is a virtual skin?

Skins were added to CS:GO back in August 2013 with The Arms Deal Collection Skins. As of 2022 the total number of unique skins is 1The skins were wildly popular within the player base and added a lot of attention to CS:GO and sparked a huge economy behind it even the developers probably could not estimate. Skins and other items have no effect on the gameplay of CS:GO and simply change the cosmetic design of the weapons, used by the user itself. As a user you can also opt out of using the skin itself and just hold on to it within your inventory.

Skins come in three varieties: Normal, Stat-Trak and Souvenir. Normal is the most common one, it's plain and simple, just a skin. Stat-Trak adds another level to the skin with a kill count on the side of the gun or knife. Souvenir drops are skins from a major tournament. It has player and team signatures on the skin from a specific game played.

No matter what kind of skin it is, each skin has a wear value, so called float value which tells the quality of the skin from 0.00 to 0.99. All though a few skins do not follow this rule and make an exception. To make it easier for a consumer the numbers give out a grade.

1. Battle-Scarred 0.45-0.99
2. Well-Worn 0.38-0.45

3. Field-Tested 0.15-0.38
4. Minimal Wear 0.07-0.15
5. Factory New 0.00-0.07

Float Values. (Rawat, 2022)

The float number tells how good condition the skin is, how worn out it is. It is an important thing on how the skins looks like, the difference between Factory New and Battle-Scarred can be massive on how the skin looks.

The float of the skins directly depends on its value. This is one of the main aspects of the price of the skin. Lower the number, higher the price. Here as well there are a few skins that make an exception but mainly this is a good rule for skins.

The most expensive ones are all knives and glove skins, all though a few other skins are more expensive this is the normality. Totally there are 324 unique skin variations for knives. Gloves were added on to the game much later than knives and therefore are a rarer commodity with 72 unique skins.(Steamfrag, 2021)



Figure 11. Knives & Gloves of CS:GO. (Steamfrag, 2021)

Every skin is a part of a unique collection and in a collection usually the number of released skins is around 20 different skins for different weapons. Throughout CS:GO's history there have been 37 unique collections released, that equals to 4 collections a year. Releases used to be more frequent in the past than present.

## 5.2 How to acquire a virtual skin

To acquire a skin, one must either:

1. Receive a skin from a random drop after an official game. One server has approximately 10 players and a few drops are given out each game on average. Generally speaking, these skins are not worth anything and are only worth a few cents as they are the most commonly dropped and used skins in the game and are not sought after by the users.
2. From opening cases. A case costs anywhere from 0,07€ and the most expensive cases cost 63,62€, as of May 2022. Most of the cases are under 1€. All of the cases need a key to unlock, the key prices are always 2,30€ to unlock. This is also by far the biggest part of CS:GO's business plan to gain profit as the game is free to play.

	Normal	Stat-Trak
Mil-Spec	79.92%	7.99%
Restricted	15.98%	1.59%
Classified	3.2%	0.32%
Covert	0.64%	0.064%
Rare Special Item	0.26%	0.026%

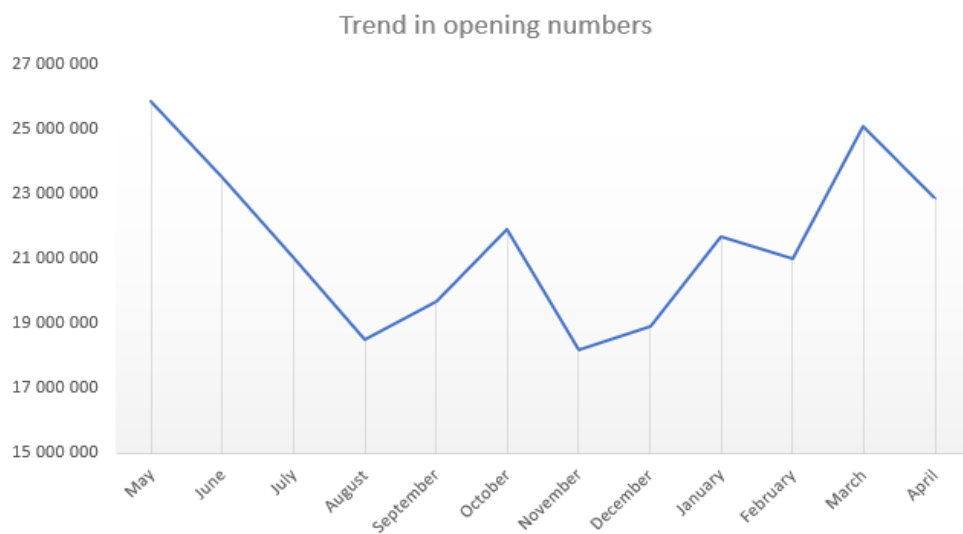


Figure 12. Cases opened per month. (Fredjick, 2022)

Fredjik, an active and one of the most notable personalities within the skin community does monthly calculations which I would like to present as well. By using the data from CSGO Stash, A calculation showing how many cases have been unboxed each month shown in Figure 12 above.

As an example, how the number of Operation Broken Fang cases was calculated, the total number of Glock-18 Neo Noir in Battle-Scarred condition was 623 were listed into public inventories which gives us a number from the case. (Fredjik, 2022)

$623 \text{ (Skin)} \div (\text{Chance of Covert}) \div (\text{Change of this specific Covert}) \div (\text{Change of Battle-Scarred condition}) = \text{Cases unboxed.}$

$$623 \div 0.650\% \div 50\% \div 16.2\% = 1\,183\,286$$

The numbers can be up and down but with this large of a sample size, the numbers are close to the truth.

Total number of cases unboxed in April 2022 was approximately 22.8 million. To open the case, you need the key which is 2.30€ which is purchased directly from CS:GO, that is a total of 58.4€ million euros a month for CS:GO just from cases alone.

3. Buying a skin from the Steam Market, the official marketplace provided by the game. Often used for low-priced items.
4. Buying a skin from a 3<sup>rd</sup> party website. Often used for more expensive items and players who actively trade.
5. Trading with other players. Doing a trade with another player to swap or purchase skins is a popular way for more expensive skins. There are many forums for CS:GO trading, regional communities, and larger international communities as well as communities for specific wants such as low float or specific weapons.

### 5.3 Pricing

As previously mentioned, all skins have different prices. Factors that determine the price include rarity, as it goes with any valuable or collectible item, the rarer it is the more people will want it, value it, and pay for it. Popularity, some skins are simply more popular, well-liked within the community than other skins and therefore they move in the markets more often and for more money. Last but not least the float value of the skin, as previously mentioned the thumb rule is the lower the number the higher the value.

Generally speaking, the most sought-after items in the game which are also the most valuable items in the game are knife skins and glove skins as they are the most used and most visible item within in the game. The most expensive skin trade was worth approximately 150,000 U.S. dollars.

### 5.4 Trading

Trading is a core function of CS:GO and many other games on Steam. Before starting any trading process your account must be eligible for trading, the consumer needs Steam Guard, which is the mobile authentication used by Steam, the provider of CS:GO. (Çakır, 2020)

Trading is mostly done in communities related to CS:GO trading. There are multiple forums and subreddits but to name one example, CS:GO Finland is a group in Facebook which has over 23,000 members within it. (Facebook, 2022) This group is excessively big considering the population of Finland and therefore overall size of the player base of Finland. As a trader or an investor, majority of your trading is done through regional communities such as CS:GO Finland and other relatable communities. As in casual player you are more likely to use third party websites such as SkinBaron.

Skin trading sites are extremely popular is because it eliminates the Steam marketplace fees which is 30% of each sale as of 2022. If a consumer looking to purchase anything

over €20, they are more likely to purchase it through a skin website to eliminate the fee.

As an example, AK-47 Fuel Injector in Factory New condition, the same skin in the same factory new condition is 209€ on SkinBaron and 287,35€ on Steam. The difference is 31.5% or 78.35€ which is why the use of these sites is clear. These prices can be seen in Figures 14 & 15 below. (Steam & SkinBaron, 2022)






NAME	SELLER	PRICE	
 <b>AK-47   Fuel Injector (Factory New)</b> Counter-Strike: Global Offensive		287,35€	<a href="#">Buy Now</a>
 <b>AK-47   Fuel Injector (Factory New)</b> Counter-Strike: Global Offensive		288,94€	<a href="#">Buy Now</a>
 <b>AK-47   Fuel Injector (Factory New)</b> Counter-Strike: Global Offensive		304,20€	<a href="#">Buy Now</a>
 <b>AK-47   Fuel Injector (Factory New)</b> Counter-Strike: Global Offensive		311,13€	<a href="#">Buy Now</a>
 <b>AK-47   Fuel Injector (Factory New)</b> Counter-Strike: Global Offensive		391,-€	<a href="#">Buy Now</a>
 <b>AK-47   Fuel Injector (Factory New)</b> Counter-Strike: Global Offensive		920,-€	<a href="#">Buy Now</a>
 <b>AK-47   Fuel Injector (Factory New)</b> Counter-Strike: Global Offensive		1 685,90€	<a href="#">Buy Now</a>

Figure 14. Listings of the Skin Factory New AK-47 Fuel Injector. (Steam, 2022)

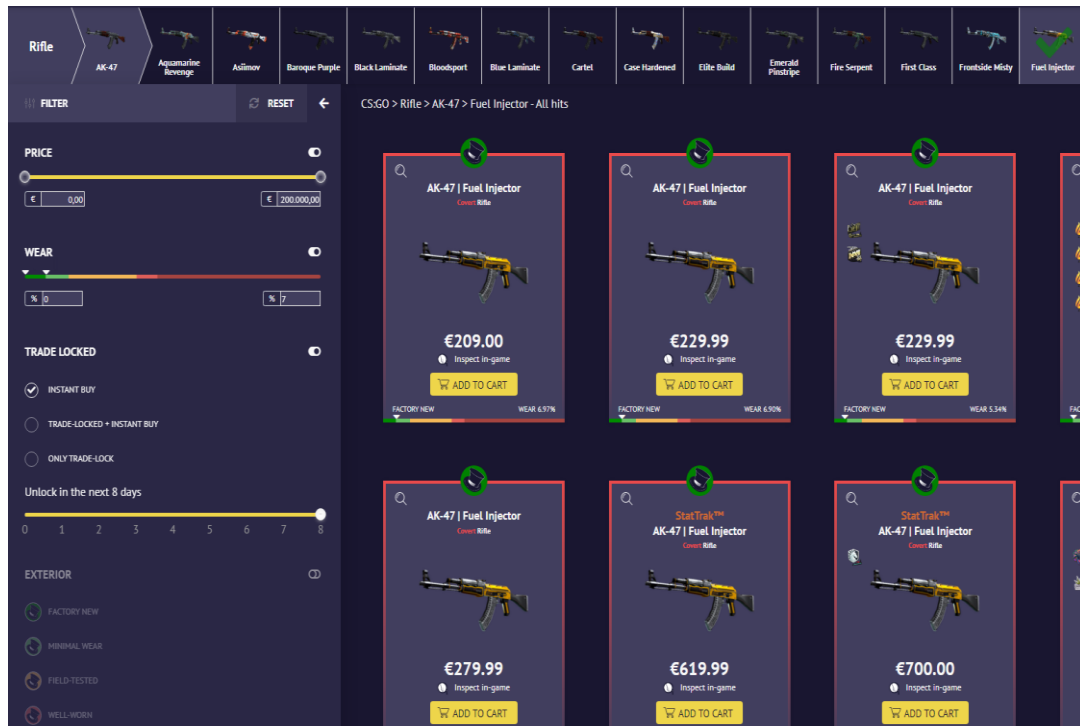


Figure 15. Listings of the Skin Factory New AK-47 Fuel Injector. (SkinBaron, 2022)

What also makes SkinBaron a pleasant experience is their clear and easy to navigate design. It is well made and easier to navigate and use than Steam's Marketplace which is out of date compared to 3<sup>rd</sup> party websites such as SkinBaron.

### 5.5 Hype Cycle

The metas of the game inflate prices of skins for a specific weapon that was either made stronger or weaker in the game. This is also very straightforward as if something is way better than the other equivalent version, it is used more by the consumers therefore pumping up the prices. This happens fairly rarely in CS:GO but a recent example was a buff, increase to power, to the M4A1-S and a nerf, a decrease in power, to the M4A4. This had an enormous impact to the game itself and to the skin prices. below are graphs from the steam marketplace were two skins one for the M4A1S which received a buff and the prices spiked up, and for the M4A4 which received a nerf and the prices are going down as shown in Figures 16 & 17 below.



Figure 16. Price of a buffed M4A1-S Factory New Hot-Rod. (Steam, 2022)

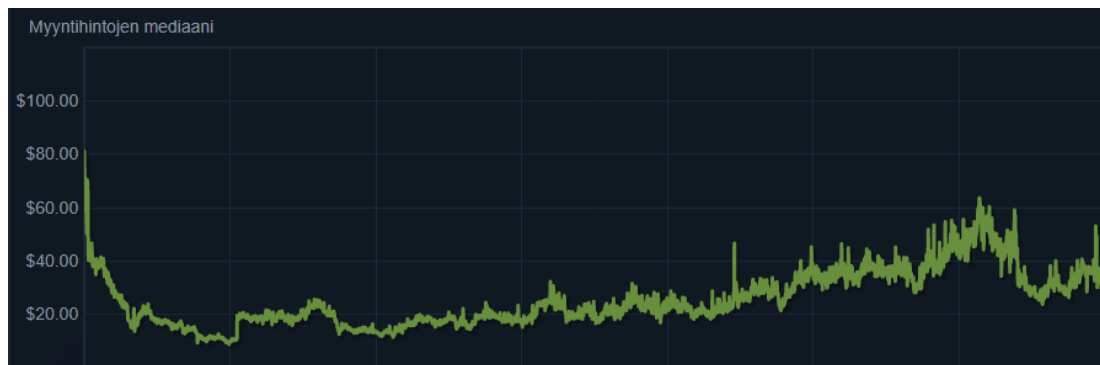


Figure 17. Price of a nerfed M4A4, Factory New Bullet-Rain. (Steam, 2022)

These two graphs tell us that the meta and hype around the game heavily influences the prices of skins. These are just two examples of the M4's. This pattern can be seen in all different varieties of skins for the weapons.

Another enormous impact on the skin market is what the best competitive player in history, Ukrainian Aleksandr 's1mple' Kostylev is using. He has won a total of 19 MVP trophies from tournaments, numerous tournament wins and crowned as the best player of 2018 and 2021, and a runner-up for the best player of 2019 and 2020. (HLTV, 2022) His influence on the game speaks for itself. Something weird started happening in the end of November 2021. The Nomad Knife, not a popular knife by the community, suddenly out of nowhere started to spike in value. To implement how random this is, skins will always go up and down in price, but there is always a reason. Perhaps a brand-new case, which has a knife that is not available in many other cases, making it more available and lowering its value. The two different M4's have consistently gone up and down in value depending on which version of the gun is better in the game. But far as the nomad knife goes nothing had changed, or at least nothing that was considered usual that should impact the price of the skin. The reason



behind all this was pretty simple, it was simple. He started to use the nomad knife 16<sup>th</sup> of October 2021 and used the skin in tournaments and the community took notice and started to buy the knife like no other and pumped its value as shown in the picture below showcasing three of the seven possible Nomad Knives, this pattern can be seen in all of the seven varieties of the knife.



Figure 18. simple Effect. (Steam, 2022)

This kind of activity can be looked at as Internet based social commerce. Consumers are influenced by recommendations made by family, friends, other customers and experts. Such recommendations can be general to all buyers. (Turban et al., 2016, p.55) This case it is experts like simple.

## 6 RESEARCH METHODOLOGY

### 6.1 Research design and methods

The research approach is inductive research as there is little to no existing literature on the topic therefore inductive research approach is perfect as there is no existing theory to test. The inductive approach consists of three stages which the author will go through four examples in Figure 19 below.

1. Observation
  - A player with many hours in CS:GO has a more valuable inventory than a player with less hours played
  - Esports enthusiasts buy, trade and sell more skins during a Major tournament
  - An older player does not open as many cases as younger players
  - A player with many hours played in CS:GO trades more actively
2. Observe a pattern
  - Another 20 players with many hours in CS:GO have a more valuable inventory than players with less hours played
  - Another 20 Esports enthusiasts buy, trade and sell more skins during a Major tournament
  - Another 20 older players do not open as many cases as younger players
  - Another 20 players with many hours played in CS:GO trades more actively
3. Develop a theory or general conclusion
  - All players with many hours in CS:GO always have a more valuable inventory than players with less hours played
  - All Esports enthusiasts always buy, trade and sell more skins during a Major tournament
  - All older players do not open as many cases as younger players
  - All players with many hours played in CS:GO always trade more actively

Figure 19. Three stages of inductive research. (Author of thesis, 2022)

A conclusion drawn on the basis of an inductive method can never be proven, but it can be invalidated. The larger the dataset, the more reliable the conclusion. (Streefkerk, 2022) For example, the author observes 1000 players with many hours played, all of them have a big and valuable inventory which is in the line of theory. However, the author can never prove that player 1001 also will have a big and valuable inventory.

The author is exploring a topic of video game skins, buying behavior and to develop links between skins, the consumer and esports. The links are interesting data that can be collected from the survey can be remarkably interesting, does a heavy investor invest more his time to watching esports? Does the consumer spend more time and money on opening cases, trading or selling his skins during a Major tournament. Does he open more cases than the average player? Is there a specific weapon he invests in?

Data for quantitative analysis can be collected and subsequently coded at different scales of measurement. Data is entered for computer analysis as a data matrix in which each column represents a variable and each row a case. This is done with the questionnaire that the author conducts. The author analyses and explores the data from the research using both tables and graphs, the choice of table or graph will be influenced by the research question or the objective or the aspects of the data which

the author wishes to emphasize and the measurement persistent with which the data were recorded. The graphs and tables show specific amounts which is important for the thesis. The multiple bar graphs and pie charts show and compare the highest and lowest amounts of the respondent's answers. The graphs also show if there are any trends or patterns within the answers which is vital to the research and the outcome of it. The trends show what are the factors that impact a decision around skin buying, selling and trading. The research is all about collecting and analyzing data to find answers to research questions and to find hidden patterns behind them. The method is great at making averages, medians for skins and inventory questions.

Mixed methods may be defined as research in which the author collects and analyzes data, integrates the findings and draws inferences using both qualitative and quantitative approaches or methods in a single study. (Doyle et al., 2009, p.176)

Generalization, samples may be studied with a view to generalizing to some larger population and statistical techniques can be used to maximize the validity of generalizations and to assess the chances of serious error in the process. (Hammersley, 2013, p.10-11)

A form of social inquiry that tends to adopt a flexible and data driven research design to use relatively unstructured data to emphasize the essential role of subjectivity in the research process, to study at small number of naturally occurring cases in detail, and to use verbal rather than statistical forms of analysis. (Hammersley, 2012, p.12)

The predominant model of analysis is verbal description and interpretation, supported by illustrative or evocative examples. Such descriptions are sometimes seen as simultaneously fulfilling the functions of explanation. For instance, qualitative researchers are frequently concerned with discovering which factors tend to produce some outcome, or what the typical consequences of some event or type of action are, and they seek to do this through describing in detail changes in a small number of cases studies overtime. Qualitative researchers may also compare one or more cases in order to try to assess which of several factors involved seem to play the crucial role in the sort of social process is being investigated. (Hammersley, 2012, p.12)

## 6.2 Population and sample

At the start the survey was given out personally by the author to people in the community. The author is an expert in the field and has many connections with other players alike. This community is mainly Finnish players from the game making website Esportal, which is a platform to play highly competitive Counter Strike. The survey was also open to the public in a Counter Strike forum which was a huge success as the survey received 239 responses from all around the world which provided the author with great data.

## 6.3 The survey

As a survey is a rather complex procedure to obtain data for research, in this section The author discussed a number of decisions the author had to take in order to design the survey. Survey research means collecting information and data about a group of people or individuals in this case by asking them questions and analyzing the results. to conduct an effective survey the author has determined who will participate in the survey which was previously mentioned in subchapter 6.2.

The author also had to decide on which type of survey would he proceed to use. From the different options, an online questionnaire is by far is the best option for this specific thesis as majority of the respondents live in different places and the author thinks online survey is better than e-mail survey in this thesis as a link is easier distribute to individuals. The author designed the survey questions specifically to answer questions and to make theories for the research. Distribution of the survey was done personally by the author as also previously mentioned in Chapter 6.2. Once the survey has been distributed and replied, the author is to analyze the responses and write up conclusions and results from the data gathered.

The survey was filled in Google Forms as it is a reliable software and easy to use for the respondents and the author as the data collector as well. The author received structured collection of data that is easy to read and transfer from a large sample size.

The questionnaire has closed questions, list questions and one open question in the end which allows the respondent's to give answers in their own way which is needed. Some of the questions also had an open-ended answers if the respondent wished to answer with something that was not an included as an option.

#### 6.4 Data collection and analysis

Use of computers has revolutionized data collection. In this thesis the survey was done online which requires the use of a computer and every single one of the respondents has one. The data collection and analysis will be done by the author from within Google Forms itself as the program is excellent for online surveys and making graphs and figures from the answers. The survey answers also can be used to confirm or create new theories around CS:GO and its skins. Primary data will be used in the survey by the author only from the survey and no secondary data is used at any given point during the research.

The questionnaire is one of the most widely used data collection methods within the survey strategy because each the respondent is asked to respond to the same set of questions, it provides an efficient way of collecting responses from a large sample size. The design of the questionnaire will affect the response rate, reliability and validity of the data the author collected. The design of individual questions was taken into consideration and as well as the clear and pleasing visual presentation which Google Forms provides.

#### 6.5 Validity and reliability

The author finds whole survey remarkably interesting, yet the most interesting point for the author is the links between hours played and most expensive item and the inventory value combined. Is there a clear gap between the two, does a player with 7500 hours automatically have substantially bigger and more valuable inventory than a player with 1500 hours. Is there a median on what number of hours a player must play until they heavily invest in skins. This is Criteon Validity, how one variable acts

to another factor or variable.. (Litwin, 1995, p.37) The author is trying to determine and find out does high number of hours played predict a significantly higher inventory value as well as many other points within the survey that can have links between them such as a can a player watching a major tournament automatically lead the player to investing into cases, trading or selling. Figure 20 below shows the Criteon Validity in action, and it will be used in a number of theories with the survey.

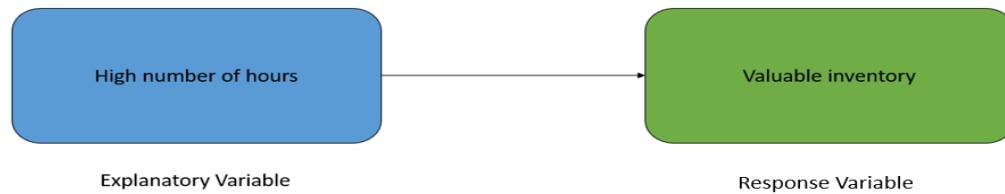


Figure 20. Criteon Validity. (Author of thesis, 2022)

Reliability is the extent to which data collection methods and analysis procedures will produce consistent findings. If the research is to be reliable, it must employ data collection methods and analysis which produce consistent findings. Such consistency refers to the degree in which the measures the author takes will produce the same results if used on other occasions, other researchers when using the same methods and procedures in the same way will produce same results and those interpreting the authors research can see clearly the how the author came to the conclusions from the data collected. Factors that destroy reliability are subject error, subject bias, observer error and observer bias. (Lewis & Saunders, 2012, p. 128)

## 7 RESEARCH FINDINGS AND ANALYSIS

### 7.1 Research respondents background

The research survey started with a question for the respondents' age group to determine if age has any major factors on customer behaviour in the rest of the research. The groups were divided into four groups, 15-18 years which ended up being

the smallest group with 13% of respondents, 19-22 years which was the largest group with 38.1%, 23-27 years was the second largest with 35.6% and lastly 28 years or older had a 13.4% of the survey. The author clearly has two almost similar groups with both having difference of 2.7% and 0.4% as shown in Figure 21 below.

1. How old are you?  
239 responses

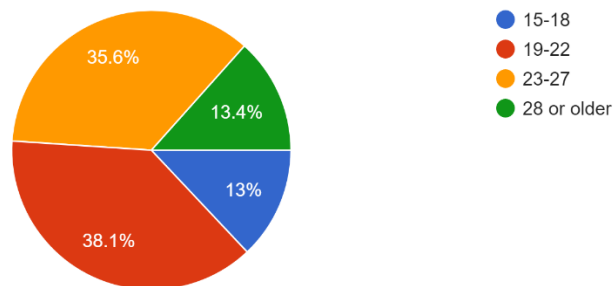


Figure 21. Respondents age. (Author of thesis, 2022)

The second question was how many hours had the respondents played CS:GO? This question will be a big factor in many connections in this thesis. Surprisingly the lowest group of 0-999 hours have 14.6%, the author thought this would not be as big. The second group of 1000-2000 hours was the largest group with 25.9%. Third group of 2000-3000 hours had a response of 22.2%. The fourth group was 3000-5000h which had a response of 25.5%. The fifth group off 5000-10000 hours had a response of 10.9%. Last but not least the sixth group, more than 10,000 hours had 2 respondents making it 0.8%. The chart is shown below in Figure 22.

3. How many hours have you played CS:GO?  
239 responses

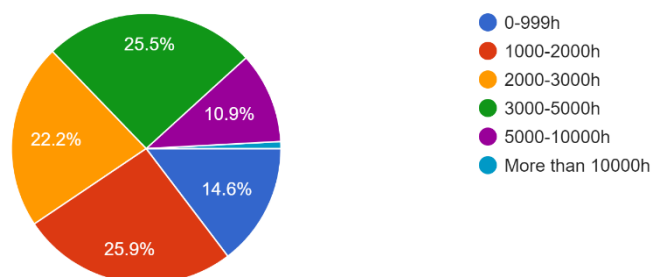


Figure 22. Respondents hours played. (Author of thesis, 2022)

One of the research questions was "Does a player with many hours played on CS:GO automatically have a high inventory value?" and from the results the author can determine that this is correct, 85% of the respondents reported higher than 250€ as shown in Figure 23 below.

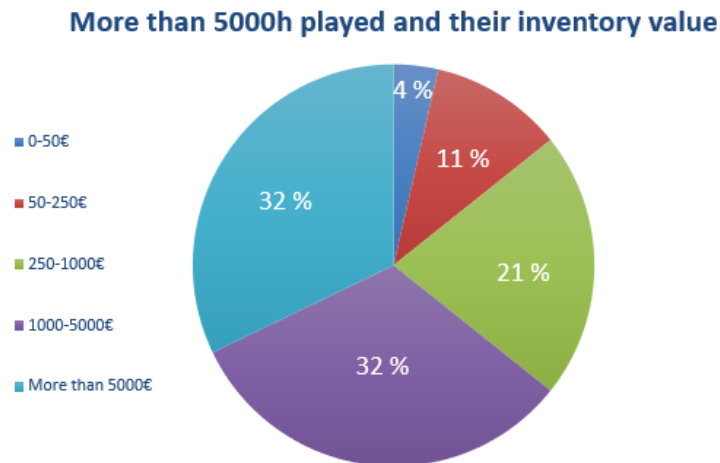


Figure 23. More than 5000h played and their inventory values. (Author of thesis, 2022)

The author wanted to know the respondents' background which the author has divided into four groups, Asia with 6%, Rest of Europe with 43%, North and South Americas with 20% and The Nordic countries with 31%. This question also is a factor on many research questions. The chart is shown below in Figure 24.

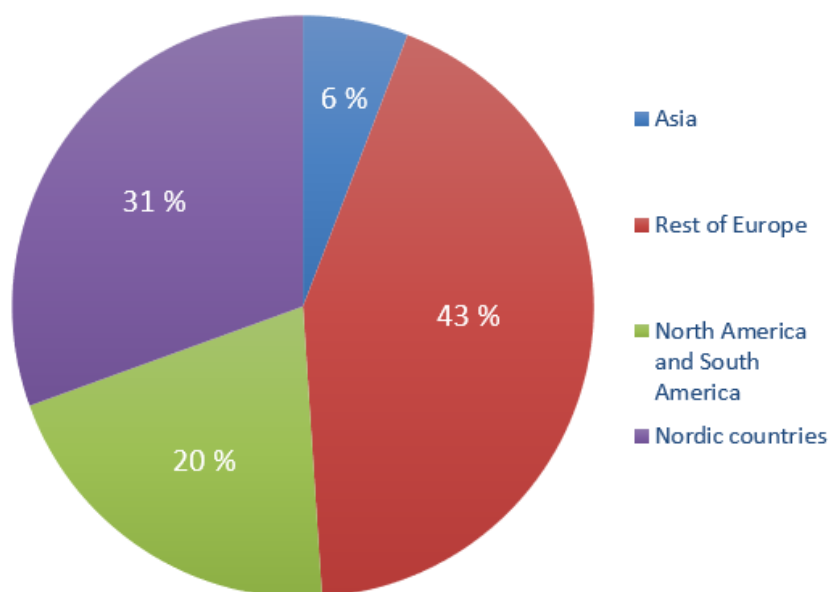


Figure 24. Groups. (Author of thesis, 2022)



The regional differences regarding investing CS:GO skins is really big. Europe is by far the biggest spender amongst the four groups, 32% of the respondents have an inventory worth over 5000€ while North- and South-America has 22% and Nordic has 10% on the same category. Asia has 33% which is bigger but to note Asia was the smallest group of the four. North- and South-America have a similar pie chart to Europeans but smaller more than 5000€. The Nordic countries chart is very evenly distributed and overall, well balanced chart. Asia was the only group to have 0-50€ responses but the group had the least responses with 12 responses. All of the data discussed above is shown in Figure 25 below.

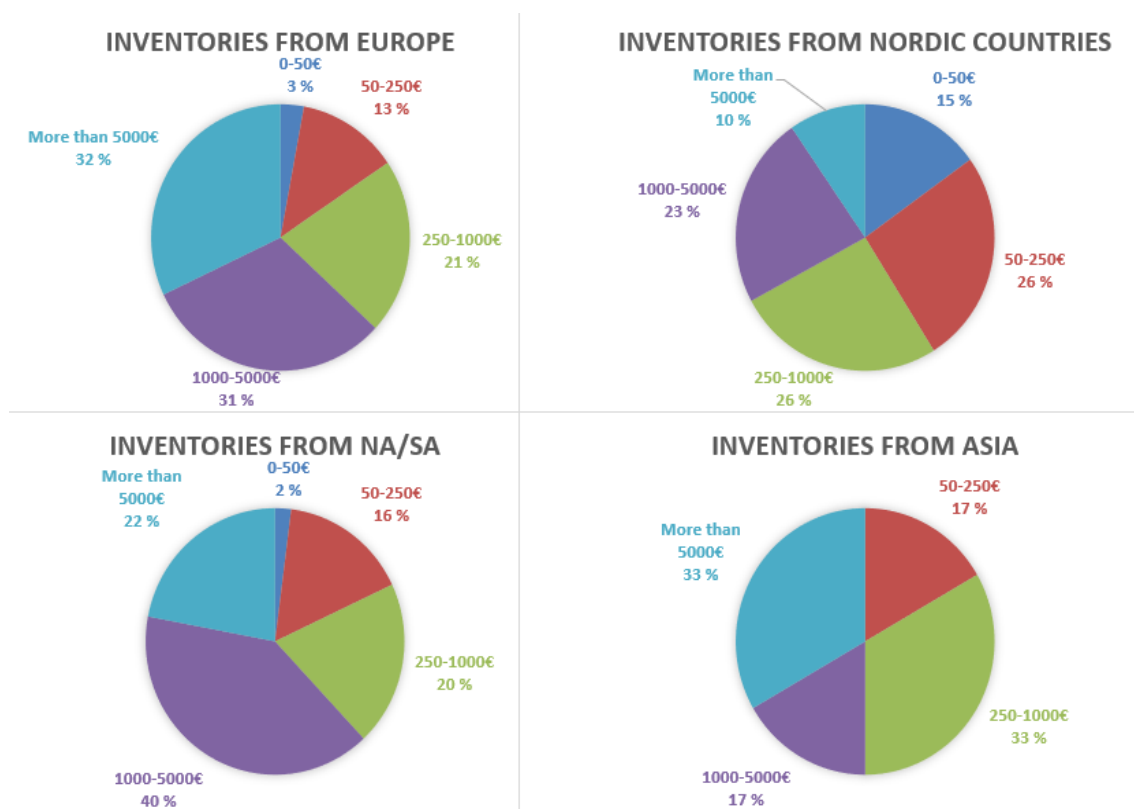


Figure 25. Inventory distributions amongst the groups. (Author of thesis, 2022)

## 7.2 Research findings and analysis on 3<sup>rd</sup> party website usage

The author has found a pattern. The responses tell that players are more easily buying than selling and then trading skins. Buying skins is easy. Selling is harder to do if you want a good price. Trading is harder than the last two as you need a trading partner

with equal value as neither party wants to make a great loss. The responses are gradually moving from 12.6% in buying, 23.8% in selling and 28.9% in trading as shown in Figures 25, 26 and 27 below.

Have you ever used 3rd party websites to buy skins?  
239 responses

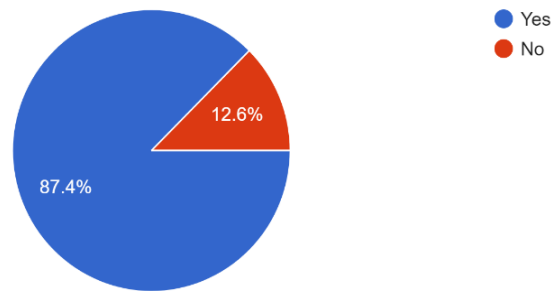


Figure 25. 3<sup>rd</sup> Party website buying. (Author of thesis, 2022)

Have you ever used 3rd party websites to sell skins?  
239 responses

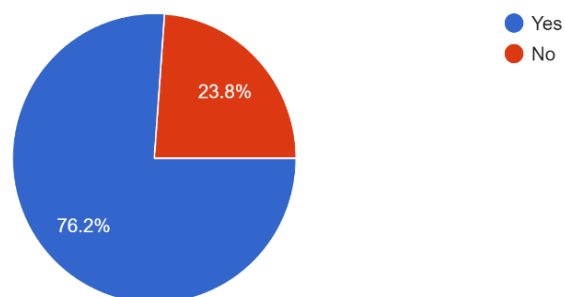


Figure 26. 3<sup>rd</sup> Party website selling. (Author of thesis, 2022)

Have you ever used 3rd party websites to trade skins?  
239 responses

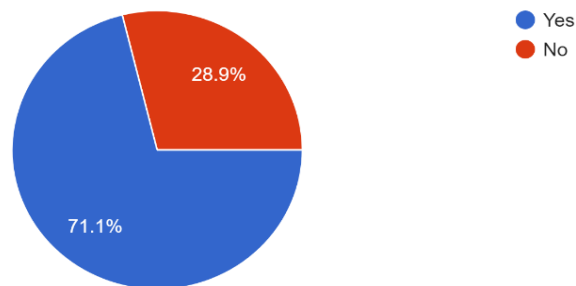


Figure 27. 3<sup>rd</sup> Party website trading. (Author of thesis, 2022)

For the respondents that replied to not buying any skins from a 3<sup>rd</sup> party website, the distribution of those answers was pretty expected, the distribution of responses is leaning more towards a newer player but still there are veterans of the game who have not used a 3<sup>rd</sup> party website to purchase a skin as seen in Figure 28 below.

### NOT BOUGHT FROM 3RD PARTY WEBSITE VS HOW MANY HOURS HAVE YOU PLAYED CS:GO?

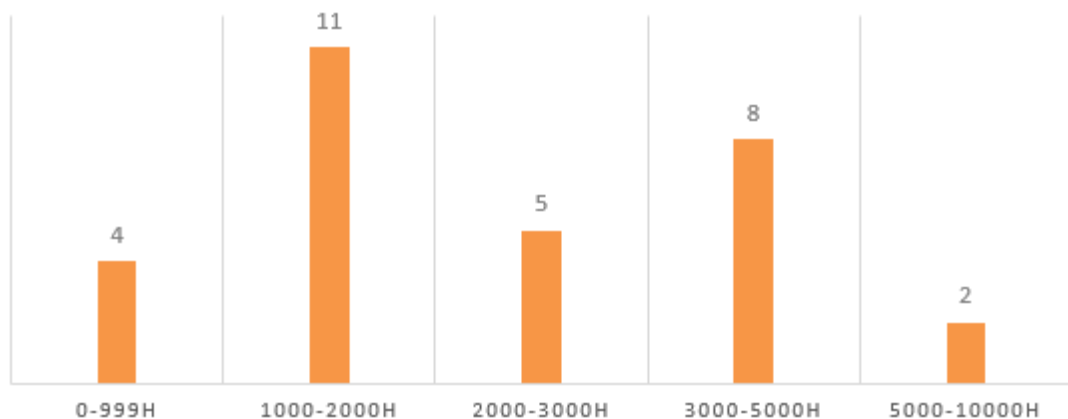


Figure 28. 3<sup>rd</sup> party website purchase vs. hours played. (Author of thesis, 2022)

For the respondents who have not sold a skin to a 3<sup>rd</sup> party website the distribution of the answers was similar to the previous Figure 28 above, but there are a substantially

more 0-999h played and 1000-2000h played players which told the author that selling is harder than buying a skin for a new player which can be seen from Figure 29 below

**NOT SOLD A SKIN ON 3RD PARTY WEBSITE VS  
HOW MANY HOURS HAVE YOU PLAYED  
CS:GO?**

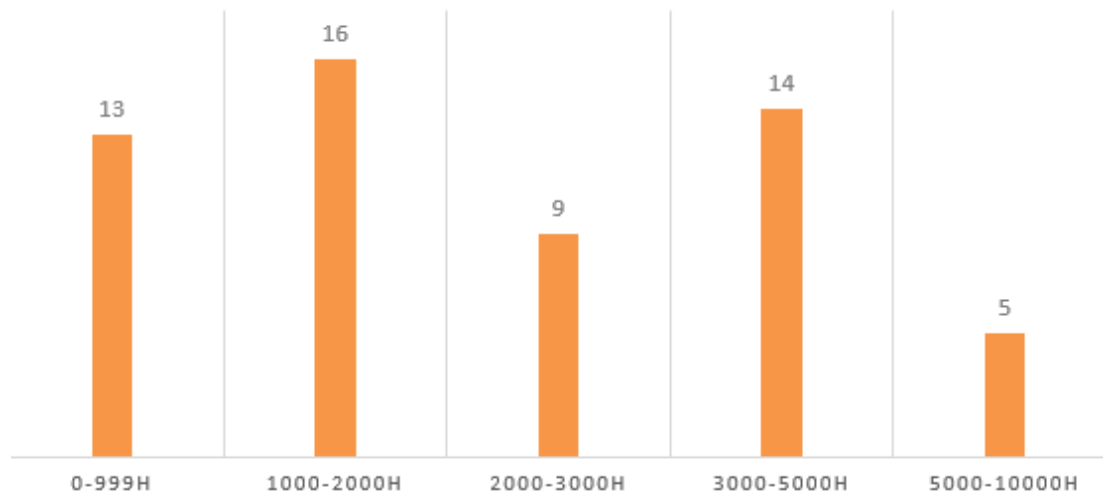


Figure 29. 3<sup>rd</sup> party website selling vs. hours played. (Author of thesis, 2022)

Third and the last one was to compare trading on a 3<sup>rd</sup> party website vs. how many hours have you played CS:GO?. Responses again are very similar to the previous Figure 29 above yet the middle of the pack players with 2000-3000h has risen as shown in Figure 30 below.

### NOT TRADED A SKIN ON A 3RD PARTY WEBSITE VS HOW MANY HOURS HAVE YOU PLAYED CS:GO?

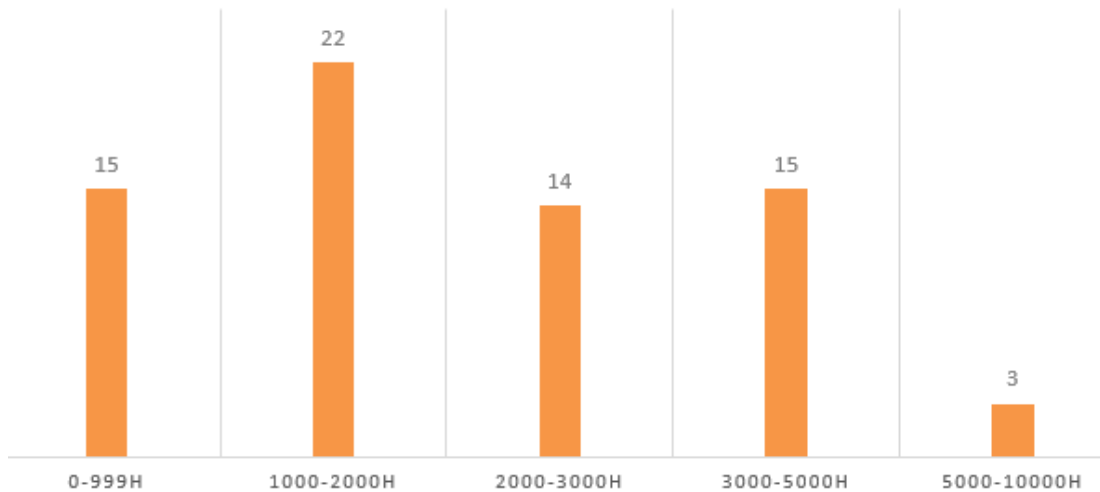


Figure 30. 3<sup>rd</sup> party website trading vs hours played. (Author of thesis, 2022)

The respondents were then asked when was the last time they used a 3<sup>rd</sup> party website to buy, sell or trade a skin. Over half of the respondents, 54.4% reported doing the following in the past 3 months April-June, 2022. Next is the three months prior, January-March, 2022 with 10.9% which is a big jump from the following 54.4%. 17.6% reported they did the following in 2021. 12.1% did the following in 2020 or before and 5% of the respondents had never used a 3<sup>rd</sup> party website. This data shows that 3<sup>rd</sup> party websites have been popular within the last three months, the Antwerp Major was just held, and this has big impact on the data. This also tells how immensely popular these sites are as shown in Figure 31 below.

When was the last time you used a 3rd party website or community to buy, sell or trade a skin?  
239 responses

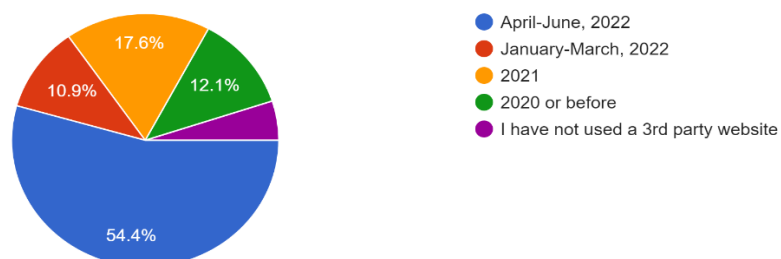


Figure 31. Last time respondents used a 3<sup>rd</sup> party website. (Author of thesis, 2022)

### 7.3 Research findings and analysis on inventory and skins

The following section was focused on the respondents inventory size and value as well as skins, what is the most expensive skin and how was it obtained and the factors that make a skin desirable.

The most expensive skin was put into five categories, 0-50€ which was 18%, 50-250€ which was 25.5%, 250-1000€ which was 30.5% and the largest answer group, 1000-2000€ was at 13.4% and last but not least more than 2000€ which ended up being 12.6% as shown in Figure 32 below. The groups ended up being closer than the author thought they would be. Still the largest group is no surprise as nearly all good-looking knives cost more than 250€.

How much is your most expensive skin approximately worth?  
239 responses

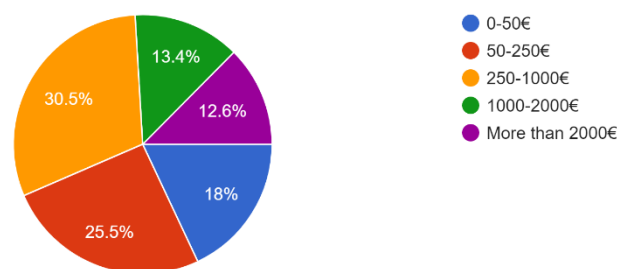


Figure 32. Most expensive skin. (Author of thesis, 2022)

The follow up on the previous question was that how the most valuable skin was obtained. 64% of the respondents responded purchasing their most valuable skin. This is a clear winner. The second largest respond was by trading with 18%, the third largest was from a case with 10%. In-game drops got 4%, Other received 2%. Others included the following, borrowed skin, gamble win, a skin voucher and one respondent who got his most valuable skin as a form of payment from making a design. The least responded way of obtaining was gifts with 1% as seen in Figure 33 below.

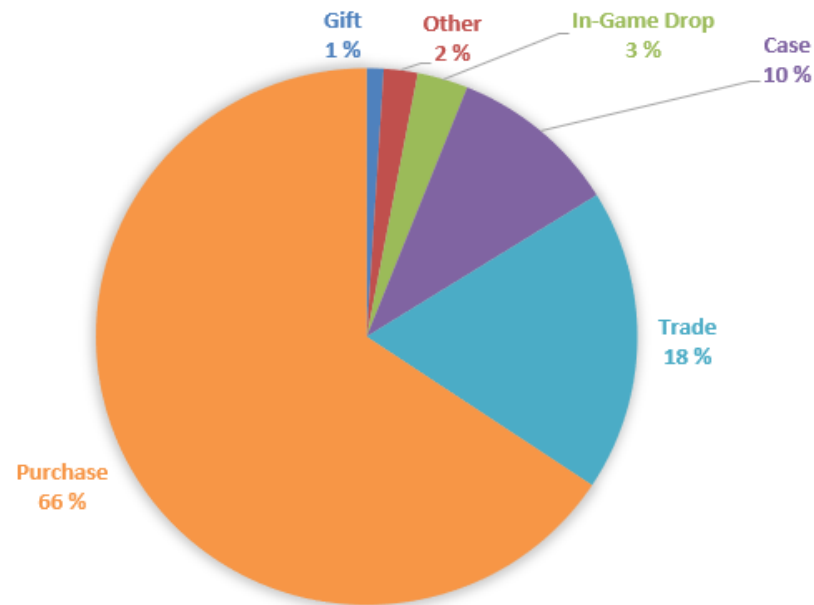


Figure 33. Obtaining the most valuable skin. (Author of thesis, 2022)

The next question was how many skins the respondent owns. 10.9% responded with 0-10 skins, 20.5% responded with 10-25 skins, 22.6% responded with 25-50 skins, 11.3% responded with 50-100 skins, 7.5% responded with 100-250 skins and surprisingly 27.2% responded with more than 250 skins. This is interesting as the author can tell that the either player has less than 25 skins as the combined percentage for the two is 31,4% or the player has plenty of skins as 27.2% is also a big percentage as shown in Figure 34 below.

Approximately how many skins do you own?  
239 responses

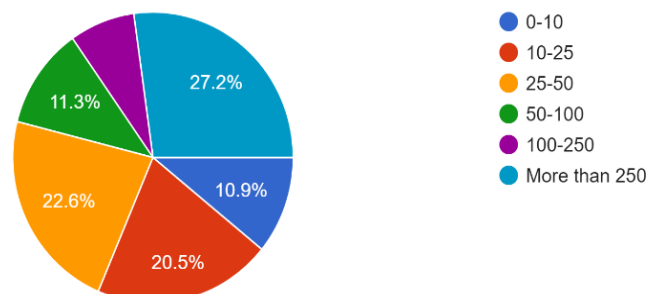


Figure 34. Total skins. (Author of thesis, 2022)

The respondents were asked what their favorite skin was in an open question format. The response was clear, the AWP, the sniper rifle in the game is by far the most liked as 72 or 32.8% responded with an AWP skin. Knives and AK were second and third and they were really close with 47 or 21.3% and 46 or 20.8% respectively. The M4 was the last to truly stand out with 28 or 12.7% as shown in Figure 35 below.

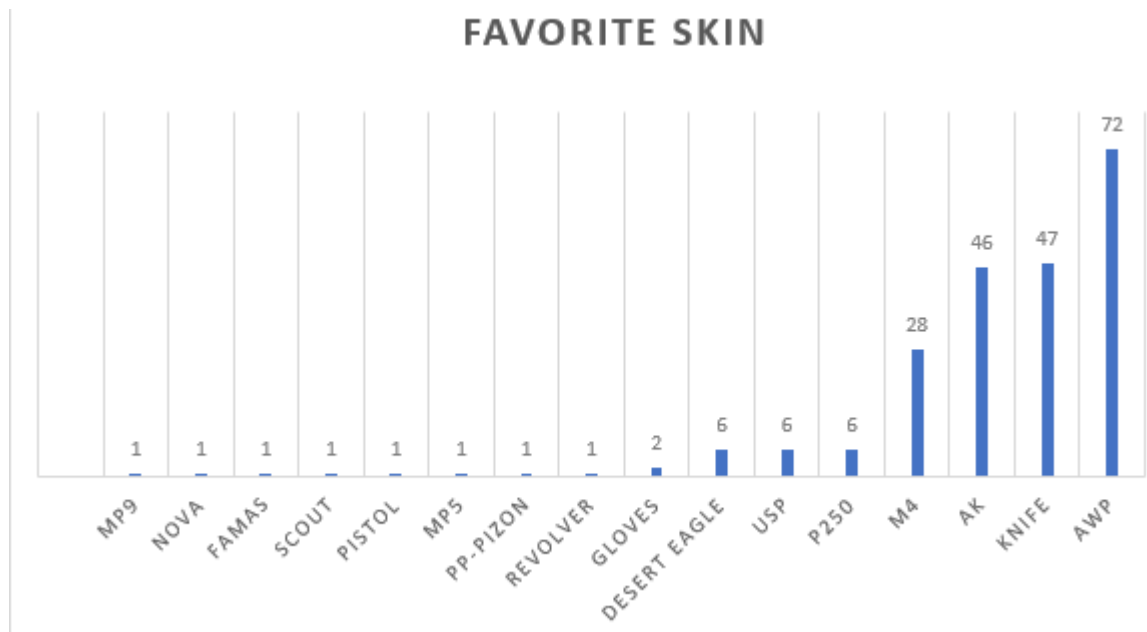


Figure 35. Favorite skin. (Author of thesis, 2022)

The author went into more detail to find out which AWP skin was the king of the pack. The skin with the single most answers was the AWP Dragonlore which is shown in Figure 36 below. The skin is currently selling from 3000€ on Battle-Scarred condition to upwards of 15,000€ for a Factory New version of the skin. (SkinBaron, 2022)



Figure 36. AWP Dragonlore. (PNGkey, 2022)



The AWP Dragonlore received 19 votes making it the top single skin answer. This is quite high as the number is 8.6% of the whole survey. For a gun this is good but for a specific skin, for a specific weapon, 8.6% is truly remarkable. The author says the Dragonlore is a clear winner for the most liked skin within the game of Counter Strike. Figure 37 below shows the votes.

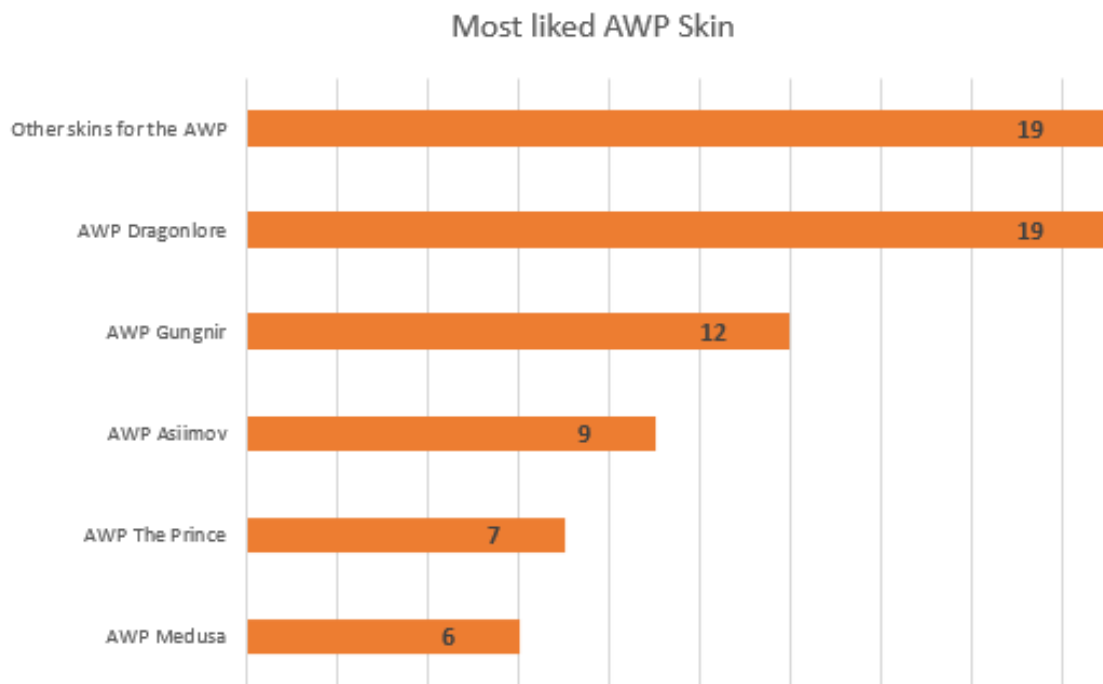


Figure 37. The AWP votes. (Author of thesis, 2022)

#### 7.4 Research findings and analysis on buying, selling or trading a skin

The following subchapter is on the factors that make a consumer buy, sell or trade a skin. The leading factors on buying a skin are clear. The visual aspect of the skin received 189 votes which is 79.1% of the total. This is clearly the largest factor, and the author is not surprised as that is what skins are supposed to do, change the visual aspects of the weapon. The second most votes received was good price for the skin with 149 votes or 61.3%. This is also relevant on what ever is being purchased, price is a big point on customer behaviour and whenever a transaction is made and to the author's surprise 61.3% is fairly low. The third to stand out is the answer to switch skins with 89 votes or 37.2%. This is still a very large margin from the total sample size and it tells how active people are with their skin buying, it is to replace another

skin. The next three responses received similar votes with 73, 71 and 70 which are 30.5%, 29.7% and 29.3% respectively. Six respondents said they do not buy any of their skins which is 2.5%. This number is super low and a very interesting statistic. All of the data discussed above can be seen in Figure 38 below.

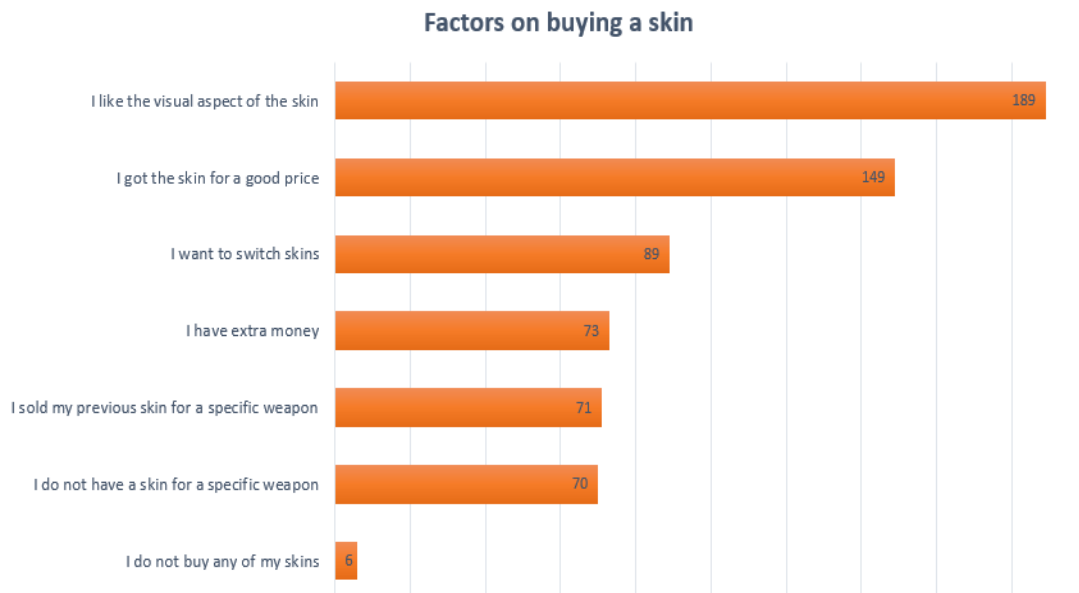


Figure 38. Factors on buying a skin. (Author of thesis, 2022)

When it comes to trading, wanting to switch skins is far more popular than in just buying with 113 votes or 47.3%. Other clearly leading factor is the consumer got offered a good price for the skin with 109 votes or 45.6%. This is the main concept in trading. Finding value in trades, thinking a trade will be beneficial within a time limit, for example within a year, the consumer might predict the skins he/she offered will be worth less than the skins he/she received. This is purely financial, and the other perspective is that they got offered some skins that they simply just love for the visuals. One factor the author would still like to point out is that the respondents rather trade skins than just buy and sell. This got 30% votes which is fairly low considering all round answers from the survey but on the other hand it tells that this is clearly not a leading factor. The other factors received similar votes with 70, 71 and 73 and are smaller factors and all three somewhat relate to each other. Selling a skin leaves you without a skin for a weapon and therefore the consumer also has extra money. All answers can be seen in Figure 39 below.



Figure 39. Factors on trading a skin. (Author of thesis, 2022)

Factors influencing selling a skin also clearly has a similar pattern as the previous but a bit clearer on what is an important factor and what is not a clear factor. The top factor is skins value going up and the customer is cashing out with 147 or 61.5% and wanting to switch skins with 142 or 59.4%. These two are clearly the top two factors when it comes to selling a skin. Remaining factors are steadily going down. Two interesting points are the difference between switching to another skin and regularly switching skins, the difference is 59.4% vs. 19.4%. This difference is quite large in the authors opinion. Other interesting point is not wanting to play with cheap skins with 21 votes or 8.8% considering the inventory values and total skin numbers from the survey. Figure 40 below shows the factor's votes.



Figure 40. Factors on selling a skin. (Author of thesis, 2022)

What makes a skin desirable question has clear answers as well. The skins value and rarity are the most important factors when it comes to making a skin desirable with 168 votes or 70.3%. "Skins add a level of customization" had 143 or 58.8% and they are the clear top two factors. Collecting and trading had surprisingly many answers with 110 or 46%. This question gathered a lot of other option answers with 21. Some respondents responded with wanting to have Stat-Trak on every skin which was mentioned in subchapter 5.1, briefly Stat-Trak is a calculator on the side of the weapon that counts confirmed kills when using the skin. Many answers were towards investing and the future value of the skin which made it interesting for some respondents. The last very interesting point made was the answer which pointed out knife animations, different knives have animations which are unique and different to the default knife which can be a factor to some. All factors are shown in Figure 41 below.

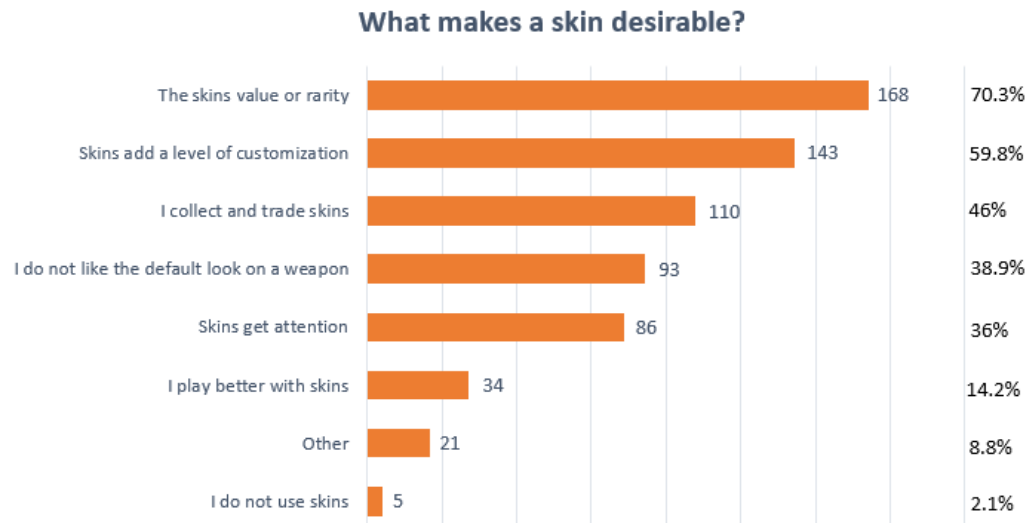


Figure 41. What makes a skin desirable. (Author of thesis, 2022)

### 7.5 Research findings and analysis on cases

Cases are a huge part of CS:GO's market and many people open them. Surprisingly high number of respondents 9.6%, have never opened cases. As the author would have thought this percentage would have been a bit lower. Then again on the other side of the spectrum, 5% of the respondents have opened more than 1000 cases. A 1000 cases opened alone is more than 3000€ easily depending on which cases the respondent has opened. 1-25 cases opened is the highest group with 38.9% which the author finds surprising as the author thought surely 25-250 would be the leading group but it is not far behind with 32.2% as shown in Figure 42 below.

How many cases approximately have you opened?  
239 responses

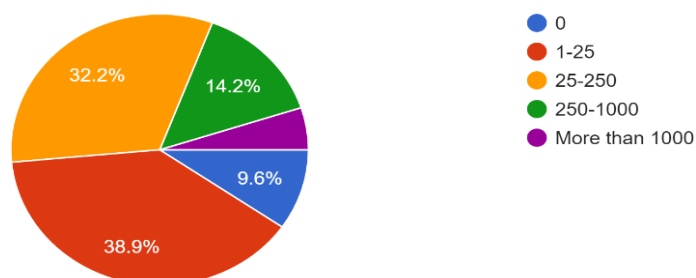


Figure 42. Cases opened. (Author of thesis, 2022)

The 5% of respondents who have opened more than 1000 cases have very valuable inventories. 25% of the respondents most likely were addicted to opening and sold their skins to open more cases or sold their skins as shown in Figure 43 below.

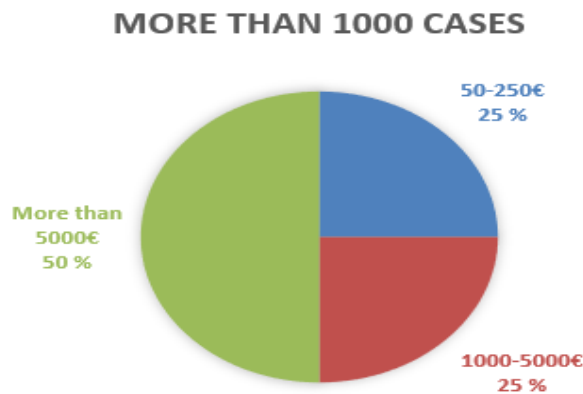


Figure 43. More than 1000 cases and their inventory value. (Author of thesis, 2022)

The next question was when was the last time the respondent opened a case, and this was interesting for the author. Release of a new case usually sparks interest, and it can be seen in this figure as 50.4% of the respondents have opened a case this year and out of those 50.4%, 34.7% have done it within the last three months. The 9.6% of not opening cases repeats itself here as shown in Figure 44 below.

When was the last time you opened a case?

239 responses

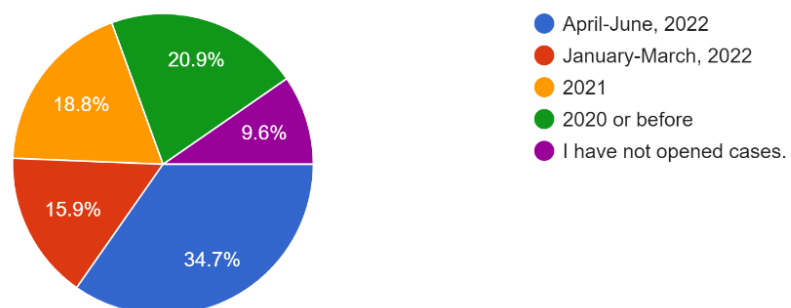


Figure 44. Last time opening a case. (Author of thesis, 2022)

About the factors why do respondents open cases there are two clear leading factors. For the thrill of opening cases, which was the number one factor with 157 votes or 65.7%. Cases are exciting, it is gambling in a way, one press of the mouse might get you a skin worth thousands of euros or a skin worth 0,03€. The hype and adrenaline are great for a small price of 3€, basically a small lottery ticket. This also leads to one factor which 5.4% could relate as well, respondents are or have been addicted to opening cases. This can happen as in a way that cases are ‘‘gambling’’. The other main factor with 93 votes or 38.9% was the factor of getting something expensive. New case had surprisingly low factor votes with 37 or 15.5% when compared to previous Figure 39 shown above. The author can see this is not the number one factor when a new case is released, skins from the collection are expensive and that thrill from the case is a more deciding factor than just the factor alone that is a new case. 20.1% reported to not opening cases which is higher than the previous mentioned 9.6% which can be concluded that the respondents do not open cases anymore but previously did. All factor votes are shown below in Figure 45.



Figure 45. Case opening factors. (Author of thesis, 2022)

## 7.6 Research findings and analysis on CS:GO Esports

Majority of the respondents responded to watch CS:GO Esports very often with 33.5%, Often with 30.5%, these two can be combined to respondents who actively follow the scene and tournaments. Sometimes had 25.1%, these respondents most likely tend to

only watch the Major twice a year. All the mentioned three combine for a total of 89.1%. This is an enormous percentage and great for the research. 7.5% responded with not very often and 3.3% with rarely or not at all as shown in Figure 46 below.

How often do you follow CS:GO Esports?  
239 responses

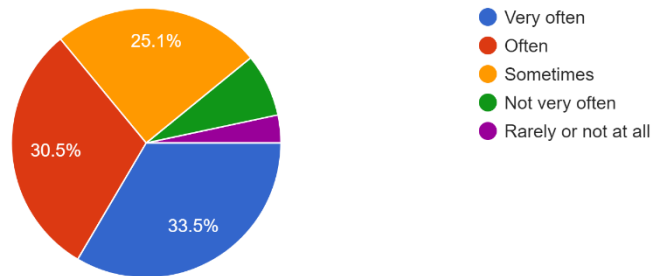


Figure 46. CS:GO Esports following. (Author of thesis, 2022)

Esports team stickers and player autographs are released on every Major tournament for every participating team and for every single player within the team. These stickers and autographs can be put on weapons and skins to show off support for a team. A percentage from these sales go directly to the teams and players. Both of these have very similar result which was surprising in a way. The author found surprising that the last two majors have created such a gap to other majors. Maybe it is regency bias and the fact that during Covid-19 pandemic, no Majors were held, and it sparked heavy interest around Stockholm 2021 and Antwerp 2022. Team stickers are still more popular product compared to player autographs as can be seen from Figures 47 and 48 below.





Figure 47. Team stickers purchases. (Author of thesis, 2022)

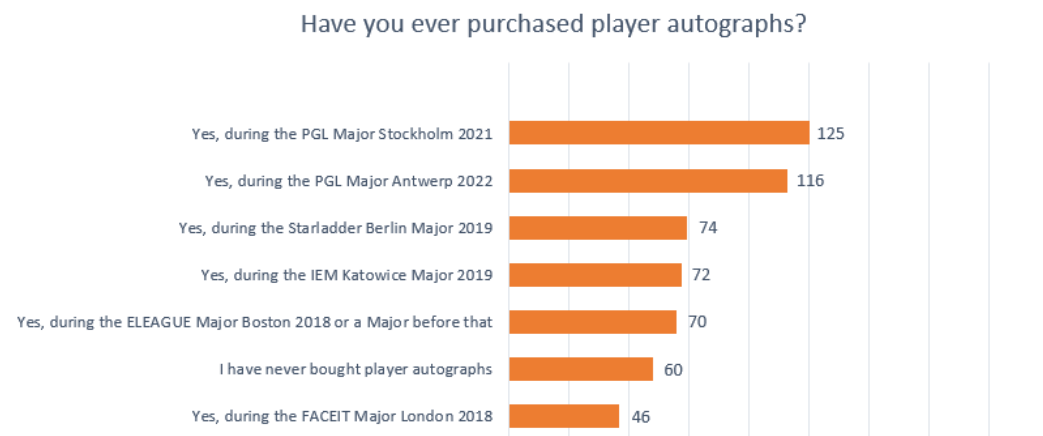


Figure 48. Player autographs purchases. (Author of thesis, 2022)

The respondents were asked if they do any skin related activity more during a major and the results tell us that 21.8% buy more skins during a Major. This is a large percentage and a great finding. Remaining three options of buying or selling a skin and opening more cases received similar answers with all being close to 10%. Altogether 62.8% of the respondents said to not do any of the given more during a Major as shown in Figure 49 below.

Are you opening cases, trading, buying or selling skins more during a Major tournament? You can pick multiple answers.

239 responses

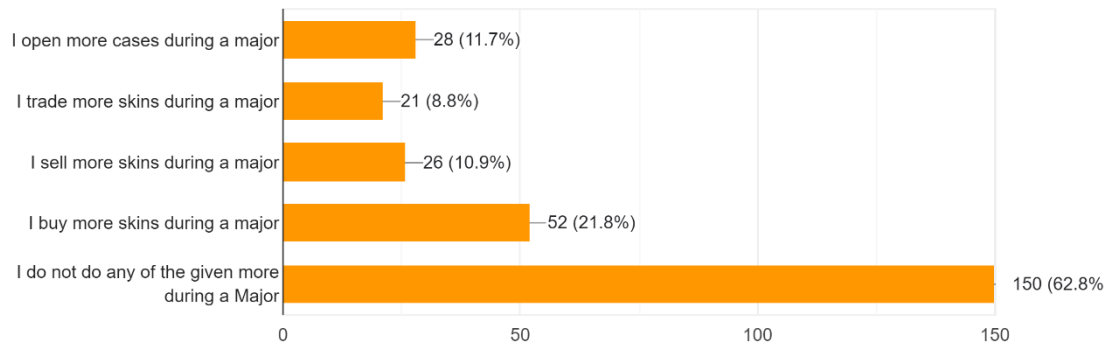


Figure 49. Activity during a Major. (Author of thesis, 2022)

One of the author's research questions was that does an active CS:GO Esport follower do more skin activities during a major and the results to not differ much from the general response as seen from the Figure 50 below. Case openings are up 7.1% compared to all responses which is the only real big difference.

### Very often respondents activity

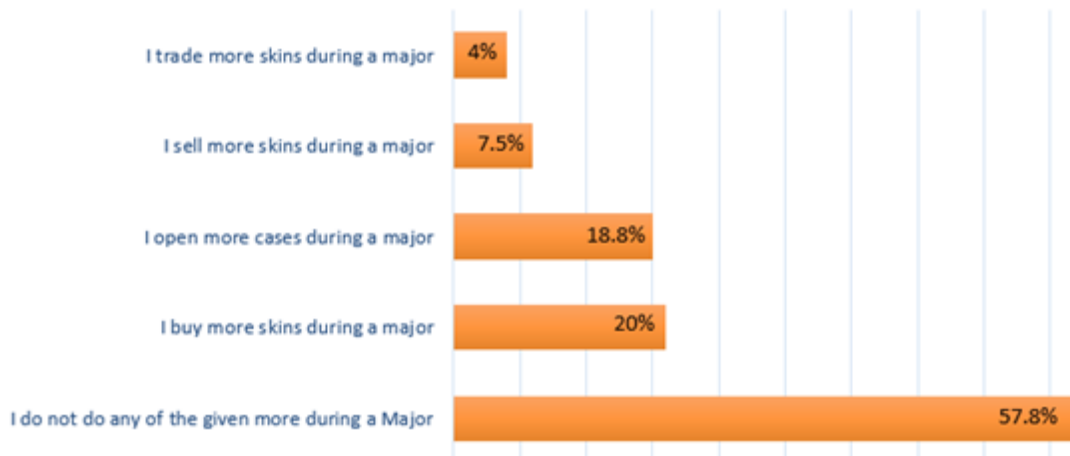


Figure 50. Very often respondents activity. (Author of Thesis, 2022)

## 8 SUMMARY AND CONCLUSIONS

Counter Strike Global Offensive is the 3<sup>rd</sup> edition of the franchise and it was released in 2013 as a sequel to the previous Counter Strike 1.6, which was a huge success from 1999 till 2012. Counter Strike Source was released 2004 but never got the same hype and competitive atmosphere as Counter Strike 1.6. As mentioned, Global Offensive was released 2013 and was an instant success and still is to this day as it is the most played game on Steam, the largest PC gaming platform. Majority of the success comes down to the release of skins in the Arms Deal update for the game back in August of 2013. As the game is free-to-play, microtransactions for cases and keys, battle-passes and other content have had a huge impact on what the game has become today, the biggest FPS-game there is. The author thinks it is fascinating as skins, do not affect the gameplay at all, they don't make you better, move faster nor give you any advantage to a player without skins. Skins simply just affect the visuals, just a paint on a gun yet this has been the reason on why the game is where it is today.

The customer segmentation and the 'ideal' customer can be defined as a young male for this game specifically but gaming as whole is for everyone. The customer segmentation is important for developing new customers as well. Emerging markets and new players are the future of gaming and the developers want to know what type of skins does a person from Stockholm like more than a person from New York or is there even a difference. Demographics such as age, gender, income and occupation are vital to the marketers. The need to improve e-commerce and to keep the flow going is important as microtransactions are the only revenue of Counter Strike.

The research was very successful and had the author found key factors in all three categories in the skins market. Buying is clearly easier for a player of any level than selling or trading. The author thinks that the margin between selling and trading was smaller than the author expected.

The research had insights on the respondents' age, their nationality, playing hours and factors on what makes a skin fascinating. All of these were implemented in a way on the research.

The research also showed that more experienced players indeed have more expensive inventories. From the respondents' with more than 5000h played, 85% had an inventory worth over 250€ which is a clear answer to the question "Does a player with many hours on CS:GO automatically have a high inventory value?". The research also showed that the more experienced players are more likely to do activity within all three categories, buying, selling and trading skins.

The way a player's most expensive skin is obtained is also very clear and fascinating. The clear winner from the research was purchase with 64%, Trading received another 18% and cases were only 10%, with the number of cases opened this is somewhat of a surprise as the author thought the percentage ought to be a little bit higher than 10%.

The regional differences within CS:GO players is quite big. Europe is by far the largest and biggest spender among the four groups or continents. Although Asia has a bigger percentage with 33% but it is a very tiny group and would need more data from the region to confirm it that Asia would be a larger market per customer than Europe.

The factors on which influence buying, selling and trading a skin are very clear as well. Market reflects heavily on when to buy and sell. Price related factors are in top two factors on all three categories and to add to the topic as well the single most important factor on "What makes a skin desirable?" was the skins value or rarity. This customer behaviour is very clear, the more expensive or rarer skin attracts people and compliments just like a fancy car.

The responses from the questionnaire regarding eSports stickers and autographs was a part that the author was happily surprised and the responses keep getting higher the more later the Major was held which tells the game is growing and in a good state. Why the author likes seeing this is because the players and eSports organizations get a portion of the stickers and autographs sold which makes the players money and

that's why Majors are a big thing. Adding yourself permanently to the game you play for a profession must be an amazing achievement and a big bonus financially.

## 9 FINAL WORDS

This thesis was very entertaining and interesting topic to the author. The author hopes the thesis enlightens people on the huge market of video games. The largest games no matter the genre have a massive following and it is very hard to lose it when a game gains a following. Consumers will be always on a lookout for a new release of FIFA or Counter Strike. The games have been here for the past 20 years and will be also in our lives for the next 20 years, one way or another no matter how war technology will take the game. Within the last 20 years the industry has seen huge growth in revenue and viewership in eSports and hopefully soon even more eyes catch up on the topic, possibly in the Olympics in 2028. Generation Z as future parents are also familiar with games as they game grow alongside them and are not as strict towards playing anymore as long the future children will also live a healthy life alongside gaming.

Counter Strike and skins will live on and cross over to future iterations of the game and hopefully spark up a new skin trend as well. Who knows how deep can a game be modified only for looks. It is also very interesting to see what is going to happen with 3<sup>rd</sup> party websites. Are they going to be extinct in the new 5 or 10 years. Maybe the companies behind the games want to prohibit the use of the websites to keep the skin market and the control of it on their own.

The research was a success. The permissions from the forum to post it was a bullseye. The survey got many responses was conducted very easily with Google Forms where the data was easily accessible and easy to read and transform into points and factors to the research questions.

Although some people may think the topic is weird, it is a huge market which they just have not come across yet, who would have thought that one piece of digital paint on

your screen can be worth over 150,000€, no one 10 years ago and probably many people to this day as well. The thesis is relevant to understanding the consumer on one of the biggest games in the world and what makes it so successful. The thesis is also related to the field of studies. The thesis proved many points the skins market and what makes it so fascinating.

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## APPENDIX

1. How old are you?
  - 15-18
  - 19-22
  - 23-27
  - 28 or older
  
2. Where are you from?
  - Finland
  - Other, specify what country
  
3. How many hours have you played CS:GO?
  - 0-999h
  - 1000-2000h
  - 2000-3000h
  - 3000-5000h
  - 5000-10000h
  - More than 10000h played
  
4. Have you ever used 3rd party websites to buy skins?
  - Yes
  - No
  
5. Have you ever used 3rd party websites to sell skins?
  - Yes
  - No
  
6. Have you ever used 3rd party websites to trade skins?
  - Yes
  - No

7. When was the last time you used a 3rd party website or community to buy, sell or trade a skin?

April-June 2022

January-March 2022

2021

2020 or before

I have not used a 3rd party website

8. How much is your most expensive skin approximately worth?

0-50€

50-250€

250-1000€

1000-2000€

More than 2000€

9. How did you obtain your most valuable skin?

Case

Purchase

Trade

Gift

In-game drop

Other, please specify how.

10. How much is your inventory worth all combined?

0-50€

50-250€

250-1000€

1000-5000€

More than 5000€

11. Approximately how many skins do you own?

0-10

10-25

25-50

50-100

100-250

More than 250

12. What makes a skin desirable? You can pick multiple answers.

Skins add a level of customization

Skins get attention

The skins value or rarity

I collect and trade skins

I do not like the default look on a weapon

I play better with skins

I do not use skins

Other, please specify what.

13. What are the factors that make you sell a skin? You can pick multiple answers.

I do not like the visual aspect of the skin

I do not want cheap skins

I want to switch to another skin

I switch skins regularly

I need the money from selling a skin

The skins value went up in price and I want to cash out

I do not sell any of my skins

14. What are the factors that make you buy a skin? You can pick multiple answers.

I like the visual aspect of the skin

I do not have a skin for a specific weapon

I sold my previous skin for a specific weapon

I have extra money

I want to switch skins

I got the skin for a good price

I do not buy any of my skins.

15. What are the factors that make you trade a skin? You can pick multiple answers.

I didn't like the visual aspect of the skin  
I needed money to buy another skin for the weapon  
I want to switch skins  
I got offered a good price for the skin  
I rather trade skins than just buy and sell  
I do not trade any of my skins

16. How many cases approximately have you opened?

0  
1-25  
25-250  
250-1000  
More than 1000

17. When was the last time you opened a case?

April-June, 2022  
January-March, 2022  
2021  
2020 or before  
I have not opened cases

18. Why do you open a case? You can pick multiple answers.

To get something expensive  
For the thrill of opening cases  
New case  
I am/have been addicted to opening cases  
I do not open cases

19. How often do you follow CS:GO Esports?

Very often  
Often  
Sometimes  
Not very often  
Rarely or not at all

20. Have you ever purchased team stickers? You can pick multiple options.

Yes, during the PGL Major Antwerp 2022

Yes, during the PGL Major Stockholm 2021

Yes, during the Starladder Berlin Major 2019

Yes, during the IEM Katowice Major 2019

Yes, during the FACEIT Major London 2018

Yes, during the ELEAGUE Major Boston 2018 or a Major before that

I have never bought team stickers

21. Have you ever purchased player autographs You can pick multiple options.

Yes, during the PGL Major Antwerp 2022

Yes, during the PGL Major Stockholm 2021

Yes, during the Starladder Berlin Major 2019

Yes, during the IEM Katowice Major 2019

Yes, during the FACEIT Major London 2018

Yes, during the ELEAGUE Major Boston 2018 or a Major before that

I have never bought player autographs

22. Are you opening cases, trading, buying or selling skins more during a Major tournament? You can pick multiple answers.

I open more cases during a Major

I trade more skins during a Major

I sell more skins during a Major

I buy more skins during a Major

I do not do any of the given more during a Major

23. What is your favorite skin of all time?

Open answer