

Commitment of Consumers of Certain Psycho-Types of Personality to Various Genres of Video Game Market Products*

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Abstract

The article presents the results of a study the commitment of consumers of certain psychotypes of personality to various genres of video game market products. When developing a marketing campaign, companies need to thoroughly understand their target audience in order to minimize production and marketing risks. Each genre of video games has a number of its own unique features that attract, or, conversely, repel the target consumer. A proposition was put forward about the connection between the psychotype of the consumer and genre preferences. Thus, knowing the psychotype of their target audience, firms can develop a new product for it (or adjust the current one), and vice versa. Having a finished product in their hands, companies can implement it for a specific target audience knowing its psychotype. The video game market has been analyzed; its main target audience has been identified.

Keywords: Marketing research, video game market, digital technologies, digital marketing, personality psychotypes.

Introduction. Material and Methods

The theoretical basis of the study is the scientific works of Russian and foreign authors in the field of digital marketing and psychology (Kotler P., 2016, Molchanov, 2018, Yumashev, 2021, Eysenck H., 1963).

The aim of this paper is to identify the relationship between the psychotype of the consumer and his genre preferences.

To achieve this goal, it was necessary to solve the following tasks:

1. analyze the video game market, as the working proposition will be tested on video game market products;
2. explore the attitude of consumers to various genres and identify their psychotype;
3. check whether there is a relationship between the psychotype of the consumer and them genre preferences.

This study presents the results of a field survey that reveals the relationship between the psychotype of the consumer and his genre preferences. As part of the study, a number of propositions were put forward and tested using statistical analysis methods. 220 respondents were interviewed by filling out Internet questionnaires. Respondents were offered questions with a binary answer (“Yes” and “No”) as part of the Eysenck part of the questions to determine the psychotype of the respondent, as well as the author’s part to determine genre preferences. No other response options

were included in the survey. Data processing was carried out in Microsoft Excel, Wolfram Mathematica and SPSS Statistics 24. Data analysis was performed using the following statistical methods: frequency analysis, comparison of means, regression analysis, and correlation analysis. Recommendations were given to companies in the video game industry to promote their products and services based on the studied theory and empirical research.

The video game market is one of the fastest growing digital markets in the world with a growth rate exceeding 8% per year (NewZoo, 2020). The video game industry is one of the most technologically advanced in the global economy, and any of its products is innovative by definition. The industry's products require constant development not only in applied industries (e.g., CPU, GPU, and RAM), but also in fundamental areas such as physics, mathematics, and computer science. So, for example, in practice, in the process of developing market products, complex numbers (for example, quaternions) are used, which is extremely rare in other areas. In terms of mathematics and computer science, cryptographic systems are among the most complex man-made creations of mankind, followed by compilers (for example, MinGW and MSVC) and aviation software. Tens of thousands of people worked on each such product over many decades. Product development of the video game market requires the use of these complex fundamental systems, and innovative developments, to maximize the optimization of their parts (rendering, physics, network code, cryptomodule, and others). From this point of view, in a general sense, any digital product is innovative, and video games in particular.

A video game is a digital product, with all the properties characteristic of a digital product. A digital product is information, a set of byte sequences, interpreted by an electronic device (PC, smartphone, e-book, etc.) and presented to the end user in an understandable audiovisual form (Yumashev, 2021).

Video games, like digital products, are served online in digital form and cannot have a physical body or presentation. Since the creation of each new instance of an already existing and developed digital product released to the market does not require raw materials and does not incur any costs, therefore, marginal costs will always tend to zero, unlike ordinary physical products, for the production of each unit of which additional raw materials and costs. As well as marginal cost, the cost per unit of output will tend to zero - decrease in proportion to the volume of sales.

According to the estimates of leading experts, only 1-5% of all products in the industry can be called commercially successful, depending on the segment chosen by the enterprise, while earlier this figure exceeded 25% (Gamasutra, 2015). It should be noted that due to the current situation in the industry, enterprises are developing several products at the same time in order to somehow minimize the risks, and in case of failure, they cease to exist. To make a profit and cover the budget in this case, the product often needs to pay off ten times or more. Risks that have grown to unprecedented proportions, a very high number of enterprises operating in the industry, changed consumer behavior in the market and increased development costs negatively affect the competitiveness of organizations. In this regard, the search for ways to reduce the cost of implementing marketing campaigns is one of the methods to reduce the riskiness of the industry.

Video Games Market Analysis

The video game industry is a sector of the economy in which the products of the video game industry are produced, distributed and sold, i.e. - video games. The industry spans dozens of different work disciplines, such as programming, design, animation, simulation, and more. The industry's manufacturing process is one of the most complex in the global economy, requiring world-class specialists to solve problems such as real-time physics simulation, material strength calculation, simulation of the behavior of light and the reflective properties of the surfaces of material objects, etc. The industry employs tens of thousands of people around the world.

The video game market is characterized by an extremely high level of profitability. Thus, the Call of Duty series of games has brought Activision \$17 billion since 2003. And the product of the Polish company CD Project RED's Cyberpunk 2077, after a 7-year marketing campaign worth \$200 million, sold 8 million copies and paid off on the first day of sales, bringing in more than \$500 million dollars. The market size reached \$150 billion in 2019 and is projected to reach \$200 billion by 2023. Some product development costs have reached the \$300 million mark and are also continuing to raise (IBT, 2015).

Due to the high growth rate, the video game industry influences the development of related industries, such as the information technology and software industry, computer components and microelectronics, the space industry and others. The development of the video game industry and the increasing growth in consumer demand affect the entire economy, which contributes to the growth of the production capacity of personal computers and their components, contributing to the introduction of new technological developments in the field of information technology and in the production of computer components, which are used in most sectors of the world economy, starting from the creation of films and computer graphics, ending with the calculations of manned space flights and the most complex physical simulations of the macro- and micro-world (Gamasutra, 2015).

Marketing agency 'WCP' in its annual report said that the market has more than one and a half billion unique consumers, including 300 million console users and 1 billion personal computer users. Also, 1 billion 200 million users use mobile platforms (smartphones, set-top boxes) (Woodside Capital Partners, 2020).

According to statistics collected by the marketing agency "ESA", the age of a typical consumer in the market is 34 years. In the market among consumers, the number of men is 6% higher than the number of women and equals 56%. The typical gamer spends an average of 7 hours a week playing multiplayer (network) games. Among online game players, 36% prefer "shooters", 28% prefer "action", and 27% prefer "adventures" (ESA, 2022).

Usually, the video game market is divided into three main segments – AAA, AA and Indie. Each of these segments has its own consumer and its own competition model. In each of the segments, companies are divided by capabilities and costs for marketing and development. These segments are divided according to several indicators:

1. Number of employees. However, it is important to take into account the peculiarities of the Digital industry. There is a similar situation with gradations of business sizes. So, for example, according to a business size assessment, Valve, having a staff of 150 people, would be considered a medium or small business, however, based on net profit calculations (Valve is a closed company that does not trade in securities and does not publish any reports, so the lower and upper estimates approximate calculations of experts) from 1 billion US dollars to 10 billion US dollars per year will be considered big business.
2. Project budgets. It is generally accepted that an Indie project cannot cost more than \$100,000, while an AA- does not exceed \$10 million., and AAA projects can cost more than half a billion dollars.

The largest players (AAA-) in the market (EA, Activision-Blizzard, Ubisoft, Saber-Interactive, Nintendo and others) occupy more than 95% of the market (NewZoo, 2020). The rest of the market share is occupied by low-budget AA and Indie studios. Based on the growth of capitalization and profits of these companies, one can judge the profitability and prospects of the market as a whole. In general, it is customary to consider the AAA segment of the market as an oligopolistic one, with a small number of large players, while companies in the Indie and AA segments compete freely with each other. At the same time, companies from lower segments can move to higher-budget segments. This is explained by the fact that if the product shoots and sales volumes increase many times, then due to the specifics of production in the industry, the costs do not increase, and this allows you to reinvest a significant share of the funds.



Figure 1. Capitalization of the largest market players

Compiled by: authors on the basis of Bloomberg data.

In Figure 1, the y-axis is capitalization in millions of US dollars, and the abscissa is the year for which firm data were presented. To look at the trend and forecast, it makes sense to consider data until the end of 2021, since the data for 2022 is not yet complete. Taking this into account, it is possible to extrapolate capitalization for the previous reporting year and capitalization to today and predict an average growth of 20%. According to the analyzed data, it can be seen that over 5 years, some companies (for example, Take-Two and Saber Inter.), presented on the market, have grown more than tenfold in capitalization, while Blizzard and EA, existing on the market since the end of the 90s, more than doubled in price over 5 years, on average from 10 billion US dollars to 70 billion US dollars.

It is important to note that the spontaneous growth of some companies in the market (for example, for Saber Interactive) is associated with the specifics of the market. Since there is no need for raw materials and their purchases to produce a new product on the market, any market product (for $t \rightarrow \infty$) can be made by one person without investment and financial costs. Thus, a situation is possible on the market when a product created and released to the market by one person (Indie segment) can gain spontaneous popularity and bring record profits relative to costs.

There is consumer power in the market, and consumer behavior in this market differs from consumer behavior in other markets. Companies in the video game market (and many other Digital markets, such as software) are required to engage in community management to a greater extent than in other markets. Usually, each company is on a direct line with its consumer (using Discord and other services).

In the video game market, there is a two-way influence, companies can influence consumer choice by creating trends, etc., so consumers can influence companies (ex. Microsoft's Halo: Infinite, after the product trailer, the dissatisfaction of the target audience forced the product to be postponed for almost a year). Among the consumers of the market there are people of any wealth, gender, age and worldviews. A typical consumer makes a consumer choice mainly because of his genre preferences, that is, which interests him. Due to the specifics of the market, as a rule, the consumer will not buy a product that is not of interest to him, no matter what marketing efforts the company makes to this. However, sometimes companies can create a trend for a particular genre.

Considering consumer choice on the example of several products of the same genre, in this case, the consumer can really be influenced by the company. In this market, there are both rational buyers and emotional ones. If the first companies can have a limited influence, then the second ones can have a direct one.

Thus, companies can influence consumer choice within a single product that is of interest to both the firm and the consumer. Also, companies practically cannot influence a consumer who is not interested in the genre of their product. In rare market conditions, it becomes possible for companies to influence fashion and trends within the segment and the market as a whole, creating interest in their product among consumers who are not their target audience (for example, PUBG and Phasmophobia).

The video game market continues to grow and this growth will continue to grow. This is due both to the digitalization of large sectors of the economy and the growing interest of large masses of people in digital technologies, as well as to the change of generations. So, the video game industry may soon offer the market new revolutionary technologies, including a neural interface for creating full virtual reality. New high technologies developed for the video game market will find their application in other markets, for example, the neural interface developed by Valve will be useful in educational processes, tourism, science and other sectors of the economy.

Connection Between the Psychotype of The Consumer of The Video Game Market and They Genre Preferences

Within this study, a survey of respondents of different age groups was conducted in order to confirm the working proposition, which is formulated as the genre preferences of Digital products (video games, or their individual selected characteristics) depend on the psychotype of the consumer. To test proposition, a questionnaire was developed, which includes a shortened questionnaire for determining the Eysenck psychotype and a developed questionnaire for determining the genre preferences of a Digital product (video games). Since the approbation of methodological recommendations will be carried out on the video game market, video game genres were chosen as the object. For the respondents, a number of questions were asked with answers "yes" and "no", other answers were not provided in the survey:

In total 220 respondents took part in the survey. The questionnaire was offered in the format of "Google Forms" and distributed through social networks. To confirm and refute the proposition, the following genres of video games were proposed: "Shooters", "Quests", "Turn-based games", "RPG (Role-Play Games)", "Simulators", "Souls-games (extremely complex games)", "Competitive", "Sports games", "Time killers", "Multiplayer", "Linear games (games without plot and game variation)", "Slashers", "Fighting games".

The respondents were asked the following questions with answers "yes" and "no", no other answers were provided in the survey:

1. Do you enjoy playing single player games more than multiplayer games?
2. Do you prefer games with a strategic component?
3. Do you prefer slow-paced gameplay and storytelling?
4. Do you like to think through every action in the game step by step?

5. Are you more accustomed and more comfortable using a gamepad (joystick) than a keyboard and mouse?
6. Do you like realism in games, do you like games where the gameplay is close to reality?
7. Do you often play sports simulators?
8. Do you like challenges - the more difficult the game, the more interesting it is for you?
9. You don't like games without puzzles?
10. Do you like games with a simple storyline?
11. For you, the atmosphere of the game and the immersiveness of the environment plays a paramount role? (Is it important for you to "feel" the world, immerse yourself in its history and storytelling.)
12. Recognition of your achievements in games is important to you, do you like it when you are at the top of the rating lists?
13. Do you prefer team games?
14. The more varied the gameplay, the more interesting for you?
15. Do you prefer a story with many choices and endings, as well as many different paths?
16. Do you enjoy playing different roles in games and creating a story for your characters?
17. Can you play the same game for months without getting tired of it?
18. Do you like civilization-like games? (For example, Civilization, Hearts of Iron, Stellaris and others.).
19. Are you interested in watching esports events based on the games you play?
20. Do you like spectacular and high-speed gameplay?
21. Do you like to play fighting games?
22. Do you like being led through the story? (You don't want to think about finding paths to the goal in the plot).

In Figure 2, along the ordinate axis, percentage values are plotted, indicating the proportion of respondents of a certain psychotype who prefer certain genres, which are plotted on the abscissa axis. So, for example, the proportion of melancholic respondents who prefer the RPG genre reaches 85%, while the proportion of sanguine people who prefer this genre is approximately 60%.

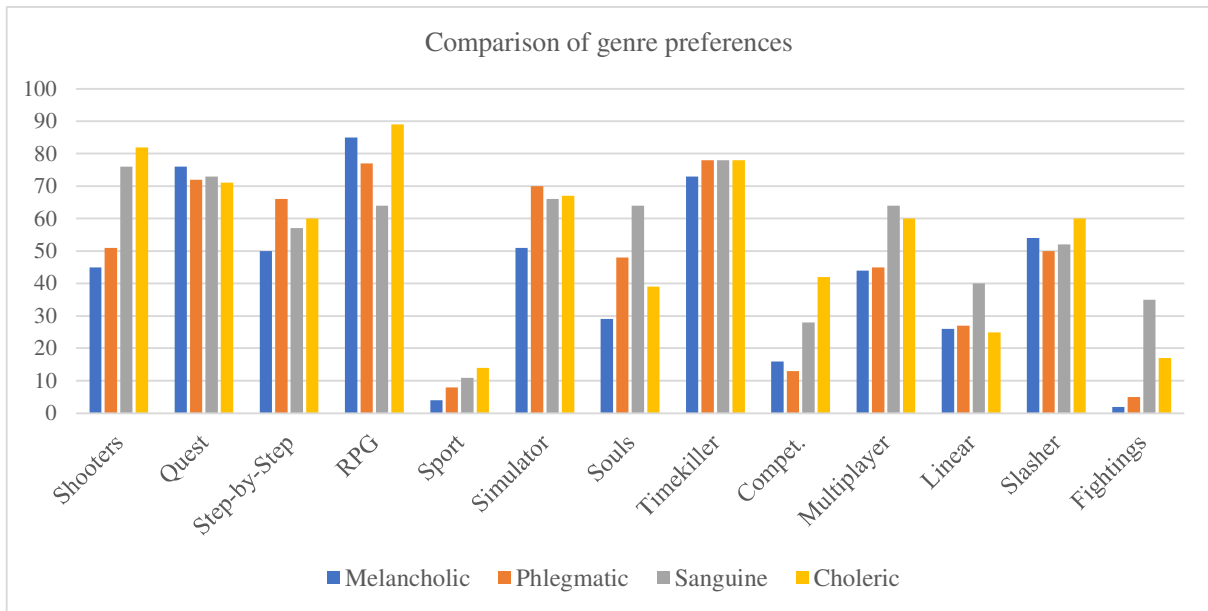


Figure 2. Interest of respondents in genres of games by psychotype

Compiled by: authors on the basis of survey data

As can be seen on the graph, both popular and unpopular genres can be distinguished. For example, the genres "Shooter" and "RPG" are the most popular among the respondents. The study put forward a number of propositions.

Proposition 1. The genre of "timekillers" is equally interesting to all respondents, regardless of their psychotype. Based on the received and analyzed data, it was found that the vast majority of respondents (80%) have a positive attitude towards games of this genre. Melancholics are 7% less likely to play products of this genre. Such a large proportion of interest in this genre and a small dispersion depending on the psychotype is due to the fact that games of these genres usually represent a monotonous gameplay aimed at the fastest passing of time and offer a neutral genre. The games of these genres are mainly used in the mobile market, and consumers play these games mainly on the road, in order to occupy their free time. This proposition has been confirmed.

Proposition 2. Active emotional psychotypes play fighting games and sports games more. Among melancholic and phlegmatic people, the share of fans of the fighting game genre does not exceed 5%, while for sanguine people this share reached 35%, and for choleric people 18%. The proposition is confirmed.

Proposition 3. Active emotional psychotypes prefer online games to a greater extent. As a result of the study, it was revealed that the proportion of choleric and sanguine people who prefer online games reached 60%, while for melancholic and phlegmatic people the share did not exceed 43%. At the same time, a larger gap was found for competitive games. Only 13% of the surveyed phlegmatic people prefer competitive games, for melancholic people this number reached 16%. However, more than 40% of choleric people have a positive attitude towards competitive games. Among sanguine people, 29% of respondents play games of this genre.

Thus, the proposition is confirmed.

Proposition 4. Active psychotypes prefer "shooter" to a greater extent. Based on the data obtained as a result of this study, it was found that more than 80% of choleric people prefer the shooter genre, followed by sanguine people with a 75% share of interest in this genre of video games. The proportion of melancholics who prefer this genre reached 45%, and phlegmatic - 51%. The proposition is confirmed.

Proposition 5. Calm psychotypes prefer RPG games to a greater extent. Based on the research data, the following results were obtained. The proportion of melancholic and choleric people who prefer this genre reaches 90%, while phlegmatic people who prefer this genre are 10% less relative to the first two psychotypes. The number of sanguine people among respondents who prefer this genre reaches 60%. The proposition has been refuted. It can be assumed that interest in this genre on the part of less stable psychotypes (melancholic and choleric) may be associated with the desire to "break away from reality" and plunge into the slow pace of the narrative.

As a result of the analysis, the following important patterns can be identified:

1. Extroverts (choleric and sanguine) prefer shooters twice as often as introverts (melancholic and phlegmatic), moreover, melancholics are even more than 10% less interested in shooters than phlegmatic people.
2. Almost all psychotypes equally prefer games of the "Quest" genre.
3. Melancholic and Choleric people are more than 20% interested in games of the "RPG" genre, but it can be argued that the vast majority of respondents show interest in this genre.
4. Sanguine and phlegmatic people are better (by 30-35%) in the "Souls-games" genre. This is explained by the fact that these psychotypes are considered stable, which is extremely important for games of this genre, where one duel with the boss can last for hours due to the extreme difficulty provided by the genre, and the game itself can take weeks and months.
5. Melancholic and phlegmatic people are less fond of competitive games and less eager for recognition from achievements in games by other players. At the same time, sanguine and choleric people are more than 20% interested in competitive and multiplayer games.
6. For games of the Slasher genre, it is impossible to identify any relationship with the psychotype, half of the respondents claim that they are positively disposed towards this genre, while the difference in interest for each psychotype does not exceed 2-3%.
7. Less than 5% of melancholic and phlegmatic people play fighting games, while for sanguine people this figure reaches almost 40%, and for choleric people - 20%.

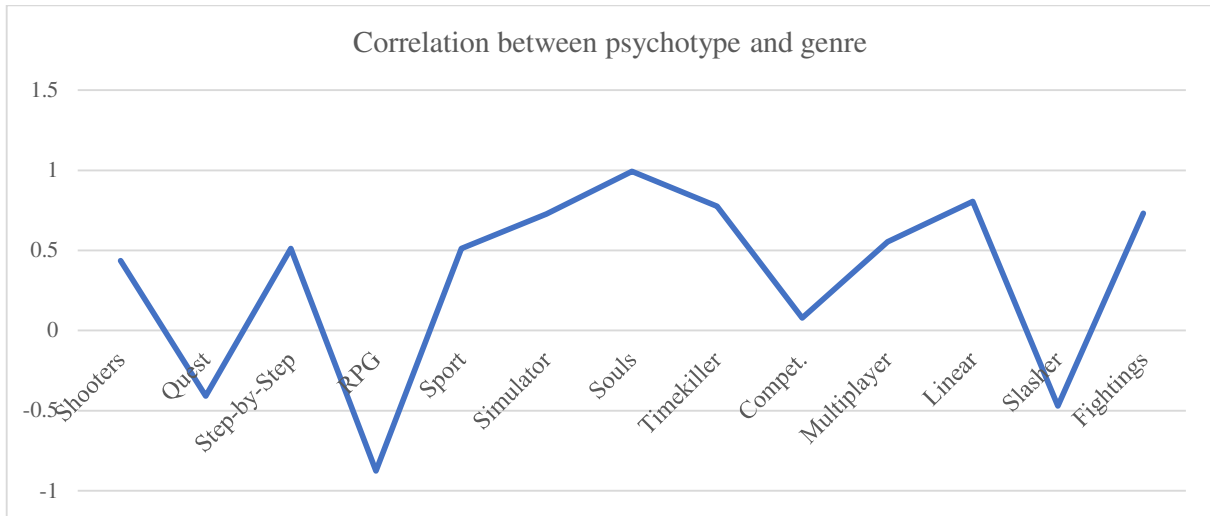


Figure 3. Correlation coefficient between psychotype (from unbalanced to balanced) and product genre of the video game market

Compiled by: authors on the basis of survey data

Figure 3 shows the spread of the correlation coefficients. The y-axis represents the coefficients themselves, and the abscissa shows the genres of video games. Based on the data obtained, one can judge a strong connection between the psychotype of the respondents and their genre preferences. The maximum positive correlation is observed in games of the Souls genre, while RPG games have a strong inverse relationship (the data should be interpreted as follows: the more the genre is preferred to a balanced psychotype, the greater the positive correlation and vice versa).

Speaking about passive and active genres, we can highlight the following results:

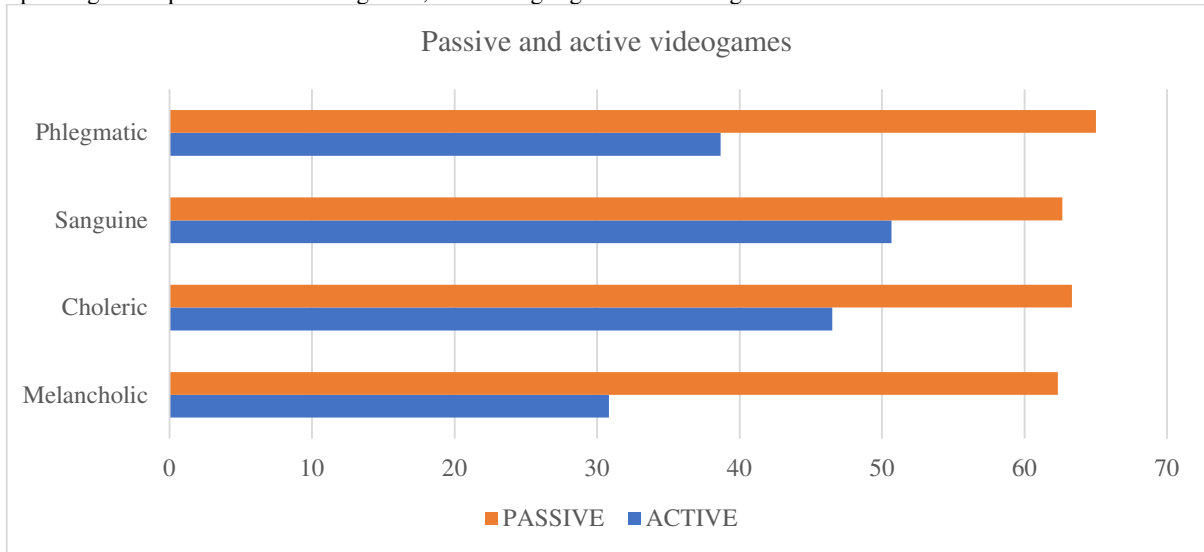


Figure 4. Interest of respondents in passive and active games

Compiled by: authors on the basis of survey data

Figure 4 shows the overall assessment of the interest of respondents of certain temperaments in games of passive and active genres.

Proposition 6. Extraverted psychotypes play active games to a greater extent. As a result of the analysis of the data obtained during the survey, it was found that sanguine and choleric people prefer games with active gameplay by an average of 16% more than phlegmatic and melancholic people. This can be attributed to the fact that extroverts are more excitable and, due to the characteristics of their psychotype, they like active gameplay more. Thus, the proposition is confirmed.

1. For melancholics, the difference in preference for passive games is maximum and reaches 20%, while for other psychotypes the difference does not exceed 10%.
2. It can be concluded that melancholic people prefer quiet games.

Conclusion

As a result of the analysis of the video game market, several important conclusions can be drawn:

1. The video game market is characterized by extremely high profitability, the net profit margin reaches 35% and, depending on the specifics of the company, can reach 95% in some cases.
2. There is a strong power of the consumer in the market, there are examples when consumers have had a direct impact on firms regardless of their size (Microsoft, Bethesda).

As a result of the empirical study, the following conclusions can be drawn:

1. The psychotype of the consumer is connected to his genre preferences.
2. For some genres, the correlation relationship reaches 0.95.
3. For certain genres, such as "RPG" and "Slashers", the correlation is insignificant and the genres are of interest to the vast majority of respondents, regardless of their psychotype.

Thus, it can be assumed that there are other factors that, together with the psychotype, influence the genre preferences of consumers. Further studies are needed to confirm this proposition. Meanwhile, as a result of this study, the proposition that the genre preferences of Digital products (video games) (or certain selected characteristics of Digital products) depend on the psychotype of the consumer is confirmed.

When developing a product, companies can be recommended to pay attention to the overwhelming psychotype of their target audience, since the study proved the existence of a connection between the psychotype and genre preferences. If the target audience of the company is diversified by psychotype, then the product should correctly combine the positive features of each genre that interests the target audience.

With a static target audience, a company is not recommended to change the genre of a product aimed at this target audience in the long term.

In general, the video game market will develop at an ever-increasing pace. The market size is growing and the growth rate is also increasing, and new technologies will attract more investment and audience. Like the market, the industry is growing. The number of represented enterprises in the industry exceeds 35,000 for 2021 (ESA, 2022). It is worth noting that most of the enterprises are indie companies represented in the mobile segment of the market, however, with the development of technologies and product development software, simplifying the development process itself, such small firms will be able to offer the market AA-segment quality products. However, no reduction in the cost of marketing campaigns is expected yet, which hinders the development of Indie segment enterprises due to their lack of the necessary budgets for such events.

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