



Analysis of Websites Supplying Computer Games in the Assessment of Users

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Abstract

The aim of this article is to execute a comparative analysis of delivery methods used to purchase computer games. The article is a continuation of research focused on the popularity, use and impact of games on the behavior of a prominent population. For the analysis it was chosen the nine most common computer game stores found in the first hundreds of searches in Google. CAWI analyzes were used for six groups of features: transparency, site navigation, quality of information, product search quality, advertising, and the quality of the order processing from the customer's perspective. A qualitative study was conducted to select a sample of selected students using the point method and the point method with preferences to evaluate the distinctive features of the services. A group of over two hundred and fifty randomly selected people from the university was examined. This approach was based on the structure of the article consisting of the presentation of the research hypothesis, the description of the methodology and the research sample, and the analysis of the results and their discussion together with the resulting conclusions. The results of the work may be used by the owners of computer games and website designers.

Keywords: Computer games; computer game shops' evaluation; services online

1. Introduction

The main target of this study is to analyze the quality of online video game services. This is the fourth part of a series of surveys focused on the possibilities of using computer games in education, entertainment, sports, etc. – this time taken from the perspective of potential game providers.

Analyses of websites are executed mostly to:

- broaden knowledge about the particular occurrence and its rules,
- create a ranking of the best websites in the industry, used for recommendation of services / goods,
- select the best service from the customer's point of view to create patterns that support website designing practice.

Following article is focused mostly on the first from the above statements. The analysis is targeted to define the most important features of online computer game shops accompanied with rationale behind the decision to visit such websites and to purchase the game. This type of research focused on customer decision making is present in the work of the authors [1-4].

2. The Assumptions of Research Methodology and Population Sample

In the dynamic and complex market environment and the high innovativeness and competitiveness of solutions, the following questions arise:

- what are the characteristics and what form should take the website to enhance their attractiveness for the customer?

- what communication preferences and payment options are indicated by customers as the most attractive in relation to computer games stores?
- what set of attributes and functionalities of those sites seems to be the most important for customers?

Answers to above questions might bring a cross analysis of the customers' requirements of online stores. Quantitative and qualitative research of users is required for this purpose, due to the use of software and, on the other hand, the sources of their acquisition – websites [5]. Due to the limited and random research in this area, both in domestic [6, 7], and foreign [8-10] literature, the approach was based on own method consisting of the following steps:

- choice of a test group,
- constructing a web-based survey of websites from the client's point of view,
- verification of the questionnaire based on the test group, selection of the most important criteria from the customer's point of view,
- identification of the most important factors influencing behavior of computer game stores' customers and placement of a revised questionnaire on the servers of the Faculty of Management of the University of Warsaw and dissemination of information about the possibility of completion of this survey,
- distribution of the survey between respondents,
- analysis and discussion of the collected results using the point method,
- conclusions from the research.

The following research methods were used:

- choice and justification of research sample,

- construction of a questionnaire dedicated to use of online computer game stores and its distribution among respondents and collection of survey data,
- use of a standard point method to execute comparable analysis [1],
- analysis and discussion of survey results and consequences drafted based on a survey.

Research was executed at the end of December 2016 by over 250 respondents. Participants were recruited from academic environment. It was based on a questionnaire containing quality of used website with computer games and from the other hand – technical and infrastructural convenience of such process. Evaluation of sites was based on an analysis of six groups that included detailed evaluation elements. Those were:

- page transparency – assessment of the visual quality of the page and accumulation of graphic elements,
- method of handling the page – intuition, layout of navigation tools, functionality of navigation tools,
- quality of information – the amount of information on the site, simplicity of access to information, the ability to ask questions and how to ask questions,
- the quality of product searches – simplicity of use, number of filters (selection criteria), relevance,
- evaluation of ads on the site – placement of the windows, adversity of the ads (disturbing the search, relevance of the recommendations),
- quality of purchase process – possibility to pay within the service, clarity of purchase process and information about expected delivery time.

To evaluate each of the specified criteria authors used simplified standard point method of R. Likert [11]. According to this scale each criterion was evaluated in following manner:

- 0.00 – the criterion is not met, the highest costs in economic criteria,
- 0.25 – the criterion is implemented at a minimum level, sufficient,
- 0.50 – the criterion is implemented at the middle level,
- 0.75 – the performance level of the criterion is good,
- 1.00 – full implementation of the criterion, the lowest cost in economic criteria.

The most popular websites distributing computer games were analyzed:

- kropki.pl,
- Best-Play.pl,
- Cdp.pl,
- G2A.com,
- Muve.pl,
- Saturn.pl,
- Sklep.gram.pl,
- Sklep.gry-online.pl,
- Ultima.pl.

The selection of online gaming stores was based on the listing of the first 100 positions on Google search after entering the term "computer game stores" and "computer games". This list was corrected by taking into account rankings of online game shops published in 2016 on the Internet [12-14] accompanied with the opinion of a select group of students who are frequent players of computer games. Stores with computer games are seen as a very uneven category – there are many online stores that among other goods and services sale and distribute computer games. Such shops can be characterized as shops where computer games are:

- a small percentage of activity,
- average percentage of activity (one of many services),
- the dominant form of services provided to customers.

The research was limited to stores that do not treat the sale of computer games as one of many offers (hence for example empik.com is not included in this comparison.), but considered only those where the dominant selling is focused on computer games. Also in this comparison the analysis of computer stores

that sell direct computer games were not included, as this is going to be the subject of a separate study.

The survey was distributed online (via servers of University of Warsaw Faculty of Management) as well as via manual distribution in December 2016. Participants were limited only to academic environment and were recruited from students of all types of studies (full-time and part-time BA, BSc and MA studies) at Faculty of Management, University of Warsaw, Academy of Finance and Business Vistula.

The survey was completed by 257 people, who evaluated services that they were familiar with. 72% of participants submitted correctly completed full questionnaire. Among the respondents there were 79.03% of women and 20.97% of men.

An average age of the respondent was 20.13 years (out of range 20-23 years). The age is typical of students of the first years of BA and BSc students, mainly with secondary education (85.48%).

Undergraduate education had 6.45% of respondents and post-secondary 8.06% of respondents. Approximately 69% of the respondents were students and 30% were working students. 22.05% of respondents declared the origin of the city with the number of over 500 thousand of inhabitants, 9.68% lived in of the cities of 100-500 thousand inhabitants, more than 33% lived in the cities with 10-100 thousand inhabitants. Almost 4% of the respondents declared to live in the cities up to 10 thousand inhabitants and 31.18% declared origin of the rural area.

3. Analysis of the Findings and Discussion

For the purpose of this research authors used method of a simple point analysis. Each of the respondents rated the criteria individually. As the next step, provided ratings were summed up, structured and evaluated as absolute and indicative.

The point method is criticized for subjectivism of the ratings, but at the same time it is also believed that the mass of research data averages the subjectivity of evaluations. The simplicity of the assessment makes respondents to make less mistakes and motivates participants to attend such surveys more willingly than in surveys adapted to other methods. It is also relatively easy to interpret the results. According to the authors' experience, comparative analysis of website results is no worse than using other more sophisticated methods (AHP/ANP, Electre, Promethee at all) [1].

The analysis has shown that customers of computer game stores are aware of their requirements from such sites and criticize all deviations from their expectations.

The best it is seen on the basis of an analysis of the ratio of the average shares of the functionalities of the services of individual stores expressed in the maximum possible value assigned in this ranking (calculated as the ratio of the sum of the average ratings of particular criteria by the respondents to the sum of the maximum ratings of the individual criteria expressed in percentages).

All online stores included in the ranking reached scores that exceeded 50% of the rating, so it proves that customers are generally satisfied with the services they offer (Fig. 1).

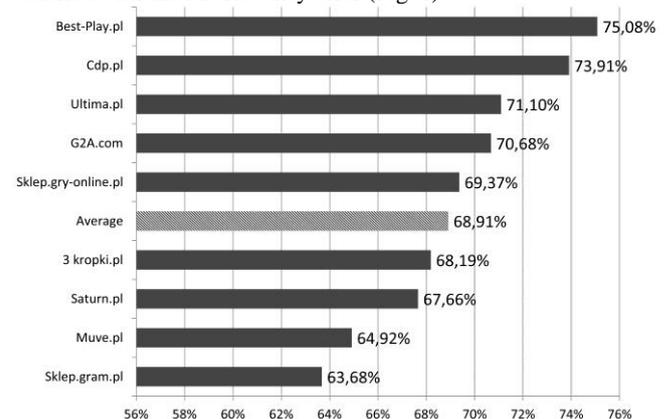


Fig. 1: Average share of service functionality of particular game shops in maximum possible value expressed in percentage

The average rating in the opinion of respondents is close to 69%. Among analyzed services, the highest rating, with a share of over 75% gained Best-Play.pl, while the lowest rating received sklep.gram.pl – almost 64%. So the spread of results is in the range of 11%, which is not as big from the perspective of internet shops. The highest score of Best-Play.pl was caused by the highest rating of the functionality of the navigation tools and their intuitiveness and the high quality of the visualization within analyzed websites.

The lowest rate for Sklep.gram.pl was caused by the lowest rating of advertisement, the quality of the site and the quality of the information available on the site.

The website Best-Play.pl gathered the best and good scores mainly in such areas as: site transparency, site support, and quality of product search. Those results were in average higher of 10-15 percentage points than other analyzed stores. On the other hand, low level (similar as other sites of this industry) was achieved in the whole group of advertisement, where the lowest rating was given to them due to advertisement impudence (38%) and the accuracy of the recommendation (57%).

Website Cdp.pl – the second store in this ranking was recognized by the respondents mainly due to the relatively high quality of the order process (in all sub-criteria: 83% on average), the location of the navigation tools and the quality of the search engine and the presentation of results on the site (close to 80%). The advertisement on this page has been ranked the lowest, comparing to other criteria, however – it got in average the highest rates among other sites.

The third in rating – Ultima.pl is high rated for its subtlety, such as the quality of the order process, simplicity of access to information on the site, and location of navigation tools. However, less than adequate are criteria: the accuracy of the answer or intuitiveness.

The worst rates were given to well known, though not very appreciated by the respondents website sklep.gram.pl. There are just a few criteria that exceed the acceptance of 70%. Those are: graphics, accuracy and clarity of the results, layout and the ability to pay online (highest rate among service features) and clarity of the order process.

Slightly higher results were achieved by Mueve.pl, mainly due to a bit better performance in terms of quality of information and generally website quality. Similar results were obtained by Saturn.pl.

The differentiation of the results was determined by the evaluation of the criteria obtained as a percentage of the maximum possible value of the feature. The position in the ranking is reflected by the sum of the values of the individual criteria and does not always allow for a full analysis of the reasons for the particular place in the classification. More accurate data is provided by analyzing the average of rating criteria used to evaluate this type of website. It can be executed at two hierarchical levels: the level of groups of indicators or at the level of detailed indicators.

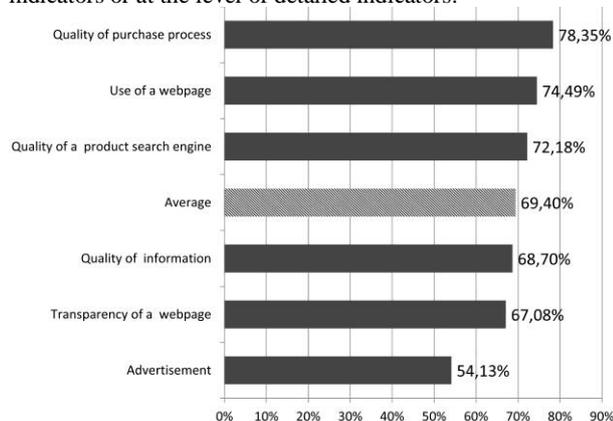


Fig. 2: Averaged rates at the level of groups of service quality indicators for stores providing computer games

At the first level, the highest rates were assigned to the quality of the order process, website support and the quality of the product search (Fig. 2). The results in all these groups of indicators go from 3 to 9 percentage points beyond the mean of these ratios. The game service providers are the worst performers as it comes to the use of online advertisement on those sites, and the low relevance of their recommendations.

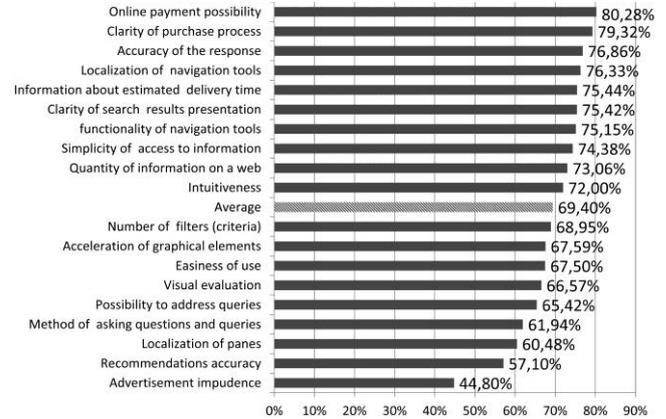


Fig. 3: Averaged rates of quality of use of stores with computer games

At the level of detailed indicators, the clarity of this division is slightly diminished (Fig. 3). Although it is possible to place on the first position the possibility to pay online for the purchase on the site (over 80%) and the clarity of ordering process (over 79%) as one of the most important positive aspects from the games stores client's point of view, but at the third position appears element of the Product Search Engine quality group – the correctness of returned answers (over 76%).

The rating of other indicators is also not matched to the above group breakdown, except for the advertisement group.

One of the methods that limits the subjectivity of group of experts or users in the point method (except for the averaging of results) is the use of individual preferences for the individual criteria or criteria groups. Following study divided the criteria into three groups: technical (site transparency and operability), functional (information quality, product search quality, quality of the ordering process) and marketing (ads on the site). For each group one variant with a group of dominant criteria was adopted:

- technical (70% for technological criteria, 15% for others),
- functional (70% for functional, 15% for others),
- marketing (70% for marketing criteria, 15% for others).

Assigning preferences to individual criteria groups has resulted in changes in rankings. Maybe those are not diametric changes, but the order in the variants has changed.

In the technical variant, Best-Play.pl still remains on the leading position, but the second position went to G2A.com that has shifted from fourth, cdp.pl has fallen one position, and Ultima.pl – went on fifth. The end of the ranking remained almost unchanged, but 3kropki.pl fell 4 positions down – getting the last place on the list. The technical features highlighted clearly the best sites in this group at the same time also indicating the worth from the customers' perspective.

In a functional variant, the order is consistent with the point method. Small movements only took place in the middle of the ranking where 3kropki.pl site shifted places with the site sklep.gry-online.pl. It shows that the functional components are the most important from the customer's point of view and giving the pre-dominant preference only proved this fact.

The biggest differences occurred in the "marketing" variant, where the best was ranked Sklep.gry-online.pl. This is not bad because the second and third position was assigned to the leading positions in the previous ranking: Cdp.pl and Best-Play.pl. The worst in terms of marketing were rated Muve.pl and Saturn.pl.

A summary of positive ranking features indicates the dominant position of Best.Play.pl and Cdp.pl. The third position is given to Ultima.pl, however, position seems to be threatened by the services of sklep.gry-online.pl and G2A.com.

The results of the point with preferences method are presented in Fig. 4.

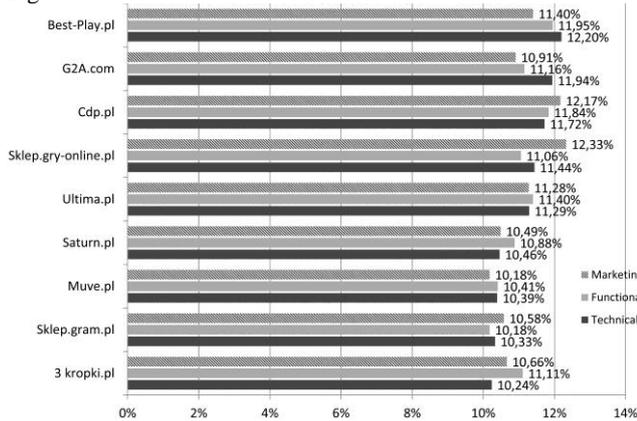


Fig. 4: Rating of stores with computer games from the perspective of points with preference method

4. Conclusion

The conducted survey, supplemented by opinions and comments (original wording) from customers of computer games stores, leads to the following conclusions:

- Most of users are generally happy from the design and functionality of services that are offered by computer game stores, it can be proved by high results of specified criteria (over 50%) and high average in the cross-section of the analyzed companies (almost 69%) and in the set of evaluation criteria (over 69%). Selected examples of clients' opinions: *...webpages (...) are colorful and intuitive, they encourage users to use them (...) there are many useful information related to offered goods, that helps to make better choice (...); ...quality (...) of websites is high, webpages look very well from the perspective of visibility and transparency, ... search engines are very convenient and offer possibility to add categories, that simplifies searching ...*
- The respondents emphasize that among the analyzed services, they value the most functionalities available there – 78% – (quality of information, quality of product searches, quality of the order process). The lowest interest is related to the use of marketing opportunities – 54% – (mainly impudence of advertisement). Especially the last issue dominated the discussion provided in additional opinions, e.g.: *often-appearing advertisements make it impossible to focus completely on the search for the desired game, and customer is upset, which may adversely affect store's reputation (...) the most annoying for me in all computer game stores is the ubiquitous advertising that is very difficult to obey. And even when you hit the closing cross, very often it is still redirected to a site with different offers or advertisements (...) the thing that customers are not happy about on the websites are all the pop-up ads, that greatly discourage shopping,*
- Clients appreciate simplicity and transparency of analyzed websites as well as the ease and intuition of using them while searching for a product, e.g.: *... online shop that sells computer games must be easy and transparent to use (...) the customer should not have a problem finding what one needs. A great convenience is the division into product categories located in the central part of a site (...) the success of an online store depends on the functionality of your website. the simpler, the better (...) the more encouraging are such sites where the number of items is minimal. Too many of them can scare away potential customers at the initial stage of purchase,*
- Respondents highlight the importance of visualization that is attracting buyers of computer games, at the same time they are aware that excess graphics may interfere with the choice of purchase. This is evidenced by such statements as: *...the*

graphics are simple and clear – there is no color clutter, which makes it easier for the shopper to find the site ... the accumulation of items can result in the consumer not wanting to search around while visiting the website, such person might feel overwhelmed and lost, even though has not yet begun to really look for the desired product (...) on the attractiveness of online shops often decide their graphic design. Many potential customers are discouraged by the accumulation of excess graphical elements on the webpage, because it becomes less transparent and difficult to navigate. In addition, it makes it difficult to find the information clients are the most interested in,

- One of the most important elements is the correct purchase process itself all together with the logistics of final delivery ... a great advantage is the use of navigation tools, that looks similar to those used by most of online stores, because it allows the user to feel confident when using the site (...) fast and clear order process also translates into the quality of the site,
- Customers are surprised by the small choice of payment options on some websites. The wide choice of payments has become an important standard for the quality of the site, hence the following statements: *...The way to make a payment is to combine the organization of the website with the agreements of the institutions that supervise online payments. The more options to pay for the products offered the better for both the user and the site. The user should have the right to choose the payment method that is comfortable for him. Agreements with large number of online payment institutions increase the credibility of the store (...), so I do not understand where the limit is coming from,*
- Respondents also points out the importance of additional information related to games ... sites are quite rich in information and provide them to every potential customer. I think it is very important for the customer to know more about the game and to read opinions, and to have a possibility to order the product that person is interested in at the same place (...) I found on the website description of my favorite game: "The Sims 4" it also contained a short video, which can convince me even more to purchase via such site,
- There is an awareness of the place and role of computer game stores in the market as a place that accumulates many other sales' offers ... *online shops provide players with the convenience and speed to buy additional games. Gathering all or most of the games available on the market gives the ability to quickly compare games and make the right choice,*
- Few shortcomings which, besides the excess of advertising are noticed by the respondents, are lack of additional communication channels: *... many could improve the channels of communication with a client (...) an interesting option would be the possibility to talk to the consultant via chat, so that the customer could receive answers to questions What would clarify ones doubts about the product / options offered by the company (...) despite trying to find a place on the site where I could ask questions, I could not find such place...*

The variety of views on websites selling computer games causes some difficulties in generalization of this evaluation. Despite the popularity of this type of websites, it is questionable the correspondence of ratings to the ratings of online stores in other areas of business [15]. So it can be said that there is some standardization of views on how a website should look. On the other hand, it also gives an idea of how the divergence of user expectations versus website creators' ideas. It also proves that traditional web design principles are still valid.

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