USABILITY OF INTERNET SHOPS QUOTING THE EXAMPLE OF E-PHARMACIES

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Summary

The article presents the usability of Internet shops. It also discusses the methodology and results of analysis covering selected e-pharmacies. The analysis is based on the so-called usability test.

Keywords: usability, website, e-commerce

Introduction

The development of technology and electronics has a profound effect on the online activity of companies. E-shopping is growing in popularity. E-commerce has become dynamic and is the most successfully functioning branch of e-economy recently. Internet stores have become common, as this way of contact between client and seller has its advantages not observed in the case of traditional commerce. From the perspective of entrepreneur, e-commerce involves most of all lower costs, flexible offers and the possibility of connecting with more clients. On the other hand, e-shops are generally convenient for customers. They do not have to leave home to get to know a number of offers. Internet stores enable them to compare the prices of various products in a fast and easy way. It should be also borne in mind that an e-shop is also a website that has to meet certain conditions, be developed properly, legible and attractive in terms of graphics. Successful Internet stores provide services that – despite the lack of direct contact with client – should be easy, complete and efficient. [11]

The main reason behind selecting the question of e-sale was the willingness to analyze websites paying attention to their usability. They are becoming popular; hence, it seems obvious to discuss issues relating to their functionality. [13]

The article is aimed at analyzing the utility of e-shops by means of a usability test. As a result, the author will evaluate particular e-pharmacies in several respects, namely simple and effective retrieval, intuitive navigation, easy service, effective functions, legible layout, and finally categorization of content.

1. Aspects of usability

A good website is a useful website. If the website is useful, it attracts users for longer or contributes to a rise in sales thanks to being intuitive. An intuitive web page is the one in which the user feels as if he/she has known it for a long time, even if he/she has entered it for the first time. Neglect in this scope may result in quite considerable disadvantages such as loss of clients or advertisers. Hence, it is worth paying special attention to proper design and development of a website so that it is a truly intuitive tool. [2]
The usability of websites determines the quality of experience gained by users from visiting a given website. It is a compilation of various factors such as: [10]

- Ease of “learning” the interface – how soon a user who has never entered the website can accomplish basic tasks on the website.
- Efficiency of using – how soon a user who knows the interface and can accomplish a given task.
- Ease of remembering – if a user has already visited the website, it should be verified if he/she remembers it well enough to accomplish a given task successfully.
- Frequency of mistakes – how often users make mistakes and how long it takes them to correct such mistakes.
- User satisfaction – to what extent a user is satisfied with the website. [3]

Research indicates that approximately 60% of information searched on websites are not successful which in turn leads to lower productivity, greater frustration experienced by the Internet user, loss of money (about 50% of losses is caused by the fact that the Internet user has not found the product he/she is seeking), probability of visiting a given website again (40% of users do not visit a given website again because of the negative first impression) or loss of time experienced by users. Usability of websites improves these statistics. [12]

According to analyses, behaviour displayed by Internet users is characterized by low tolerance for a website that is not legible or opens slowly. People do not like waiting and certainly do not like learning how to operate a given website. There are neither courses, nor directions for using the website. The user should be able to understand the functioning of website immediately after accessing it for the first time – at the latest after several seconds. [9]

As far as Poland is concerned, it is still widely discussed which is the best translation of the term “usability”. There are two schools of thought. The first one, presented mainly in the literature, uses the word “functionality”, the second one – “usability”. The latter seems to be a better choice. In English “functionality” determines the number of functions that satisfy user’s needs, whereas “usability” defines how easy it is to understand and use these functions. This is a very clear and comprehensive definition. However, it is not that easy to translate it into Polish. According to a number of dictionaries, functionality is a synonym of usability. Nevertheless, in the field of IT, these two terms are used in line with their English equivalents. [12]

Designing usability-oriented websites is also described with the use of other notions. The first one is human-computer interaction (HCI). It is a scientific area that understood in a simplified way, deals with computers. Analyses verify how people use devices and applications. This refers to websites as well. Information collected as part of research conducted on universities may be used for improving the usability of ordinary websites. [4]

The definition of user-centred design (UCD) is related to HCI. UCD is a notion that should be taken into consideration at every stage of developing a new project or improving the already existing one. The importance of such design philosophy is appreciated as a whole when one answers the following question: What is the main element of every project? The answer is obvious: an individual who will make use of a newly-created product. Consumer needs ought to be the focus of design activity. Only then may one speak of user-oriented design.

The accessibility of websites is frequently referred to together with usability. The website should be accessible for visually-impaired people, blind people, people who have problems with
moving their hands and also for mobile devices and Internet search engines. Should accessibility and usability be combined? Certain elements of websites, e.g. which make them more accessible for the disabled, have an impact on their widely understood usability; for instance, contrast between letters and background. [7] If it is not clear, accessibility and usability will be subject to deterioration. Nevertheless, such a situation is observed relatively seldom; hence greater accessibility does not always entail greater usability. Thus, it may be concluded that in some aspects accessibility is a subset of usability, yet this is not a general rule. Even a website that is perfectly adjusted to screen readers used by blind people may be hardly usable for all the users. Other people may not notice these efforts. Nevertheless, limited accessibility does not immediately translate into reduced usability, e.g. when blind and visually-impaired people are not the target group of a particular project. [14]

Experts in usability state that the first two seconds after entering a given website and the impressions received after this time are strategic. It is then that they may leave the website and not want to enter it again. In fact, this is not surprising as a user experience (UX), i.e. all impressions that he/she has gained while using an interactive product should be as positive as possible. How to achieve this? A solution is a proper design of interaction so that the product is attractive, functional and ergonomic, and the user is satisfied and content with using it. The UX is a basis for usability that involves the following three key areas relating to the ergonomics of a website, namely:

- intuitive navigation,
- facilitating the scan in search for information,
- providing communication comprehensible for the user. [8]

This seems clear and obvious, yet practice shows that authors often mess around and their “ego” or lack of knowledge make them develop websites that do not satisfy users’ needs [6].

A good website is the first stage of an effective Internet campaign because if users are not content with it, even the most sophisticated creations or extremely high budget will not help. One should remember that Internet rivals are “just one click away”.

Usability is of major importance. It is the only method to make technology of use to greater segments of society. It should also be borne in mind that users are very different from designers, programmers and e-marketers. Everyone who deals with websites professionally knows too much about them, and everyone who carries out a given project knows too much about the entire system and its functionality. People who will use a particular website do not have such knowledge and generally know less about Internet technologies. Therefore, they may consider a problem that is “obvious” to the project team. The only way to avoid such difficulty is to conduct an analysis and find out how users actually behave while visiting the website.

Usability is only one of many criteria that affect users’ satisfaction. Yet, it is essential because users will not like a product if they cannot use it easily. This may be the case with, e.g. mobile phones. Most models are so complex that the ordinary user exercises only a small number of available options. If mobile phones were characterized by greater usability, users would express stronger loyalty toward brands they value. [1]

Nowadays, large e-commerce websites provide users with considerable experience. In the case of online sales, greater usability translates directly into sales growth. Firms functioning in the branch under discussion are aware of this fact, and hence they have already made considerable investments in this scope. Nearly all large e-commerce websites have teams dealing with usability issues and introducing the best practices to make their interfaces usable.
2. Research methodology and subject

The analysis of e-pharmacies will be conducted on the basis of a user test (usability test). The optimum number of people (about five individuals) will undergo the test, which will allow one to draw correct conclusions concerning website usability and at the same time define an effective strategy for further actions taken to optimize the errors committed.

The user test was selected due to its effectiveness, economy and simplicity of implementation. It enables one to determine the intuitiveness of application and ease of using it. The technique in question will allow one to observe the defects of websites. These are the defects that reduce the number of orders, clients and users’ satisfaction.

Having in mind the specificity and dynamic development of the Internet sale (aimed at attracting as many clients as possible), using the website should be a unique experience. Hence, the website is to draw attention and, at the same time, enable users to do the shopping freely. The effectiveness of the e-shop is determined by the extent to which potential clients’ needs can be satisfied thanks to free navigation on the website, simplicity of information search, interactivity and credibility of e-pharmacy.

The first stage of the analysis covering e-pharmacies was a survey. It was aimed at characterizing the profile of people responding to the survey and select test participants. Another step consisted in accomplishing a number of tasks by the selected group, which allowed one to collect data concerning the usability of websites as well as defining their advantages and disadvantages. The next stage involved the analysis of websites and placed the leader of the group as the centre of attention. As a consequence, the arising difficulties were revealed. Time devoted to a given task, the number of clicks and final result (if a given task has been accomplished successfully) were taken into account. The entire analysis was recorded with the use of a camera, and all assignments were completed under the supervision of an expert.¹

The examination was conducted on the basis of the publication entitled “Usability tools” by Ideaco consulting agency. The document was prepared as a set of forms with commentaries ready for use, which enabled to conduct user tests independently. Instructions included in this document facilitated the examination and analysis of the results.

The main reason behind the analysis was to define problems with the functionality of e-pharmacies. Special attention should be paid to the following aspects:

• easy and effective search of relevant information,
• intuitive navigation,
• appropriate categorisation of content,
• easy use of the website,
• effectiveness of available functions,
• legible layout of website.

While selecting websites to be analyzed, three main criteria were taken into account. The first and the most significant criterion was that a given website should carry out Internet sale. Another step consisted in determining the market segment, in this case – pharmacies. This decision was dictated by the acquaintance with the coordinator dealing with this segment. Another important aspect

¹ Marta Bromirska, a student, acted as an expert.
was the fact that the website was in Polish, which facilitated the selection of the target group. Three e-pharmacies were selected from all e-pharmacies functioning on the market. The aspect of the most profound importance were their positions in Internet search engines such as Google, Opera, Safari, Mozilla Firefox:

- Dbam o Zdrowie – http://www.doz.pl/apteka/,
- i-apteka – http://www.i-apteka.pl/,

For the purpose of tests, a separate room provided everyone with natural and equal conditions. The room was equipped with:

- a desk and a computer,
- permanent Internet connection,
- two chairs,
- appropriate lighting,
- Sony DCR-SX15E digital camera,
- PLUNDER 4 electronic timer,
- Windows XP Home Edition software.

The entire examination was supervised by the coordinator who was supposed to provide users with suitable conditions, familiarize them with their duties and rights, prepare and conduct the survey, supervise the accomplishment of tasks and filling in the questionnaires, observe their behaviour, establish a diagnosis and draw conclusions. During the test, work carried out by users was recorded with the use of the camera. In order to specify the results, time devoted to particular assignments was measured with the use of a timer. The atmosphere created by the coordinator was of major importance during tests as it enabled users to behave naturally.

By means of usability test, e-pharmacies were subject to qualitative analysis. At first, the target group and goals of the website were identified. On this basis, user’s profile was defined and 5 participants were selected from the group of 20 people. This was accomplished with the use of an already-prepared profile questionnaire. Subsequently, each user was asked to participate in the test during which he/she was supposed to find certain pieces of information or conduct certain activities. In the course of the test, the coordinator took notes, remarks and observations, which allowed one to define the problems that arose. All the tasks were to be completed within a certain time limit and within a certain number of clicks given for each assignment. If someone exceeded any of the limits, the coordinator could stop the assignment and ask users to accomplish another one. In the case of each task, users evaluated the intuitiveness of a particular activity. The test could last hour and a half for each user (two hours at most). This time was sufficient to accomplish all the tasks. For the purpose of the test, the following documents were prepared:

1. profile questionnaire,
2. statement of confidentiality,
3. scenario of assignments:
   - Please find a pharmacy with the use of Google search engine by entering words such as e-pharmacy, online pharmacy.
   - Please create an account in the e-shop (and activate the account).
   - Please change the login.
• Please change the password.
• Please change the language of the website (e.g. from Polish into English).
• Please check the main functions (logging in, looking for face creams and product sorting) available on the website with the use of two browsers, namely Mozilla Firefox and Google Chrome.
• Please find the terms of service on the website of the shop.
• Please find the main subpage of the website, contact information, information about the website, logging in, creating an account.
• Please find information concerning the forms of payment.
• Please select any category from the menu and sort the products from this category by name.
• Please find and buy X toothpaste.
• Please find information concerning complaint or return of purchased product (start your search in FAQ).

3. Conclusions from the analysis

Table 1 shows the results of the questionnaire survey, whereas Table 2 presents a comparative analysis of selected pharmacies.

Table 1. Specific profile group

<table>
<thead>
<tr>
<th>User</th>
<th>Gender</th>
<th>Age</th>
<th>Education</th>
<th>Profile trait 1</th>
<th>Profile trait 2</th>
<th>Profile trait 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>F</td>
<td>31-40</td>
<td>Higher</td>
<td>Regularly uses computer and the Internet</td>
<td>Prefers and has done e-shopping</td>
<td>Good computer and Internet skills</td>
</tr>
<tr>
<td>2</td>
<td>F</td>
<td>21-30</td>
<td>Higher</td>
<td>Regularly uses computer and the Internet</td>
<td>Prefers and has done e-shopping</td>
<td>Intermediate computer and Internet skills</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>21-30</td>
<td>Secondary</td>
<td>Regularly uses computer and the Internet</td>
<td>Prefers and has done e-shopping</td>
<td>Good computer and Internet skills</td>
</tr>
<tr>
<td>4</td>
<td>M</td>
<td>21-30</td>
<td>Higher</td>
<td>Regularly uses computer and the Internet</td>
<td>Prefers and has done e-shopping</td>
<td>Good computer and Internet skills</td>
</tr>
<tr>
<td>5</td>
<td>F</td>
<td>31-40</td>
<td>Higher</td>
<td>Regularly uses computer and the Internet</td>
<td>Prefers and has done e-shopping</td>
<td>Intermediate computer and Internet skills</td>
</tr>
</tbody>
</table>

Source: own elaboration.
Agnieszka Szewczyk
Usability of internet shops quoting the example of e-pharmacies

Table 2. Comparative analyses of e-pharmacies

<table>
<thead>
<tr>
<th>Item number</th>
<th>Aspect</th>
<th>doz.pl weight</th>
<th>i-apteka weight</th>
<th>cefarm24 weight</th>
<th>Max. weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Position of the website in search engine (key words: e-pharmacy, online pharmacy)</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>Requirements for logging in (full activation)</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>Requirements for the login</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>Requirements for the password</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>Language versions – possibility of changing the language of auction website</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>Functioning of website depending on search engine (Mozilla Firefox, Google Chrome)</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>7</td>
<td>Terms of service on auction website</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8</td>
<td>Access to the main subpages of the website determined as the number of clicks (contact information, information concerning the website, logging in, creating the account)</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>9</td>
<td>Forms of payment</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>10</td>
<td>Sorting the auction objects</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>11</td>
<td>Number of steps to be taken to complete the transaction of purchase</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>12</td>
<td>FAQ (frequently asked questions)</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>22</td>
<td>21</td>
<td>18</td>
<td>38</td>
</tr>
</tbody>
</table>

Source: own elaboration.

The analysis indicated a number of problems faced by test participants and defined plausible improvements to be introduced in order to enhance the functioning of websites. It showed that one ought to obey the rules of usability while establishing an e-shop. Intuitiveness of website was the main factor determining users’ interests.

According the analysis results, test participants have accomplished most assignments. The main functions on the websites operate properly. It should be emphasized that it is easy to use services provided by e-pharmacies. The services are available for every user, regardless of experience. The main options on the website can be easily spotted as they are presented on the starting page. Navigation keys do not change their position on subpages, which enables one to operate the website without any problem. The analysis proves that the propensity to visit certain websites is determined by their accessibility. The accessibility depends mainly on the positioning of the website and its flawless functioning. In the case of e-pharmacies, these factors operated properly and hence it was easy to access the website.

Furthermore, the analysis revealed a number of defects that hinder intuitional use of the websites under discussion. Therefore, it is worth paying attention and improving these aspects in order to meet users’ expectations thoroughly.

Creating the account should be fast and simple as it is the first step to completing the transaction of purchase. Due to strict requirements to be fulfilled while creating the account on websites under discussion, users may experience irritation and discouragement. This process should be simplified
as much as possible to attract clients. The website should let them complete personal details later on, i.e. after creating the account.

Furthermore, the analysis allowed one to identify difficulties with finding commercial information and information concerning the forms of payment on the website. This is an important aspect that should be easily noticed. A potential client is interested in such a significant element and is satisfied with a great number of solutions. If the client is not provided with these options, he/she may become uncertain about the credibility of the website and leave it.

Users who want to buy a product offered by one of the websites should be provided with the possibility of accelerating the entire operation. In the case of e-shops, a search engine, well-categorized menu and the possibility of sorting the products on the basis of various criteria are of major importance. These options facilitate decisions made by users about the purchase and are another step taken to complete the transaction. As far as this question is concerned, the e-pharmacies under consideration functioned without major problems. Only on one website did users find it difficult to use the menu. Its form was not typical and not completely clear.

The fact that the website has a number of language versions determines the competitiveness of a given shop to a great extent. This allows one to get through to a greater number of clients and at the same time enhances the prestige of the web portal. Foreigners who would like to buy certain products will have no problems with completing the transaction. The e-pharmacies under examination did not provide such a function. One of them offered the possibility of currency conversion. This is a good solution, yet rather partial and hence should be developed. More users equal more transactions and greater satisfaction for everyone.

The observation of behaviour displayed by test participants and results of the analysis enable one to notice that the creators of e-pharmacies have grasped the fundamentals of usability for potential users. Still, there are a number of shortcomings to be eliminated in order to improve the websites. If the above remarks are put into practice in the pharmacies under analysis, they will become more friendly and at the same time more interesting websites. Such changes could facilitate online navigation, which would certainly attract new users.

In order to rank the pharmacies under analysis from the best to the worst one, the results should be taken into account. The first aspect was the satisfaction derived by project participants. It was i.apteka.pl that they found the most functional. Another element was the number of defects. The e-pharmacy doz.pl turned out to be the best one. Taking comparative analysis into consideration, it was doz.pl that achieved the best result, i.e. twenty points out of the maximum thirty-eight points. Analysing the above aspects and most of all usability, it can be stated that first place was taken by the online pharmacy doz.pl, the second position was occupied by i-apteka.pl, whereas the lowest position – cefarm24.pl.
4. Conclusion

The present paper discussed aspects relating to the comprehension of usability and its importance in the virtual world. The usability is an open question that leaves a margin for innovations and improvements. Nowadays, a usable website must be ready to introduce changes and improvements due to the extremely dynamic development of IT market and available solutions. Modern times are characterized by significant progress in this field. Solutions that were unreachable a few years ago are considered fundamental now and without which one just cannot do. Along with the development of IT networks, the Internet and web services, society is also subject to development. A growing number of firms establish e-shops yet do not obey the basic principles of usability. In such a situation users, who have become used to certain standards, get discouraged and give up on visiting the website. That is why it is so crucial to pay attention to this issue, as it may be an essential stage to be completed if firms wish to achieve success in e-sales.

Bibliography

UŻYTECZNOŚĆ SKLEPÓW INTERNETOWYCH NA PRZYKŁADZIE WYBRANYCH E-APTEK

Streszczenie

W artykule przedstawiono użyteczność sklepów internetowych. Omówiono również metody i wyniki analizy obejmujące wybrane e-apteki. Analiza oparta jest na teście użyteczności.

Słowa kluczowe: użyteczność, strona internetowa, e-handel

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