IMPROVEMENT OF THE PROVIDING SERVICES PROCESS WITH USE OF THE SITEQUAL METHOD

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Abstract: The current market situation has forced enterprises to change the place where they offer their products. Due to the covid-19 restrictions, in order not to lose customers and be able to continue earning money, they had to create or use various types of online platforms and organize e-shops where customers can make purchases without any restrictions. With properly designed and organized platforms, customers can check other customers' opinions about a given enterprise and its offer, choose what they need, how they want to pay, what type of delivery of the ordered goods they prefer, and they can do it at any time of the day or night and from anywhere with access to the Internet. However, it can be noticed that not all platforms operating on the market meet the expectations of customers, they do not have many functions, and there is even lack of the basic information about the enterprise or contact details. In such a situation, customers are uncertain about the safety of using such a platform, often prefer to use a competitive e-shop. That is why, when assessing the operation of e-shops and the quality of its services, it is necessary to take into account the assessment of the operation of the online platform itself. The aim of the paper is to assess the functioning of the selected internet platform and its operation by customers. The Sitequal method, a variation of the Servqual method, was used during the research. The results of the research helped to show whether the customers were satisfied with the functioning of the platform, what they liked and what they would like to improve. This allowed to indicate the strengths and weaknesses of this platform and possible direction of improvements. The results obtained can form the basis for various types of enterprises to improve their online platforms.
Keywords: service quality, e-shops, digitalization, shopping platform, Sitequal

1. INTORUDCTION

Quality as one of the priorities of competition has been introduced to the area of services on the basis of the literature on the production strategy (Esmaeilpour and Hoseini, 2017). Every service company fights for its appropriate level. There is a constant need to search for ways not only to improve services and how customers

perceive these services, but also ways to assess the quality of services. Quality analysis is one of the most important areas of business management.

The most important contemporary concept of strategic management is the concept of dynamic possibilities of companies in the face of increasing volatility of the external environment (Baryshnikova et al., 2021). It should be remembered that this environment is subject to constant changes, which affects not only what is happening in the company, but also what customers are looking for and are expecting.

One of the important reasons for changes in the external environment, but also in the enterprise, is Revolution 4.0. It is related, inter alia, to the need to digitize the enterprise and its processes, but also to process a huge amount of data. The ubiquitous digitization, the development of the Internet and the ability to collect and process huge amounts of data in real time mean that modern enterprises must increase their competition and introduce digitally supported production and sales technologies (Grabowska, 2020). Service enterprises also have to follow this trend, which is why digitization of services has been evident for many years. More and more services are offered by the Internet, which causes a huge development of e-services, including e-commerce.

The Internet has thus become a channel that can increase competition in the industry (Kalia, 2017). E-commerce refers to the business processes involved in buying and selling goods and services over the Internet, and websites act as a medium for such business transactions. The share of e-services is constantly growing all over the world (Ghosh, 2018).

However, it should be noted that also in this area, quality is very important, and its maintenance at an appropriate level is even more difficult. The methods used to assess the e-services quality do not differ much from the assessment of traditional services. Such assessment is based on customer expectations towards e-services and their perception. Perceptions and expectations can be described as the desires or needs of the customer. Ultimately, from the customer's point of view, it is more about what "should be" rather than what "would". That's why organizations need to measure and analyze customer perceptions and desires (Chetthamrongchai and Saengchai, 2019).

Service quality management requires comprehensive research at various levels of the process of its provision. When managing the service quality, one should take into account the fact that the customer is involved in the process (Klimecka-Tatar and Ingaldi, 2021). The customer participates in almost the entire process of service provision, chooses its options, specifying his requirements, and may introduce changes to the ordered service. That is why the same customer should also be involved in assessing the quality of services.

In the case of e-services, the quality dimensions included in the assessment change. They should certainly include elements of the supply chain, i.e. delivery time, product availability, flexibility, frequency, punctuality, accuracy, reliability of deliveries (Karcz and Ślusarczyk, 2021), i.e. elements that are also taken into account in the case of traditional services.

The quality of services is also largely based on the assessment of customer service and employees' approach to this process. Providing customer service at a predetermined high level is most often associated with the need to perform specific activities, and sometimes even investing in developing the potential, but ultimately with increasing cost (Pilarz and Kot, 2019). The approach to the quality of customer service is an attempt to recognize customer satisfaction from the point of view of the diversity

between customer perception and actual service based on a number of conditions (Kadłubek and Grabara, 2015).

In the case of e-services, due to the lack of direct contact with the service provider, the website or application through which customers purchase e-services is taken into account. In this assessment, it is possible to include the appearance of the website, its operation, performance, contained information and photos, safety of use, or payment methods. Many scientists create their own scales which can then be used. There are many interesting scientific articles on quality in e-commerce in the literature (Bressolles and Nantel, 2008; Carlson et al., 2021; Horn et al., 2005; Mummalaneni et al., 2016; Pattnaik, 2019; Webb and Webb, 2004).

Digitization of all processes in the enterprise, also in the case of e-services, is associated with the creation and increasing size of the analyzed data sets (Pietraszek et al., 2020). A properly selected research method can help in limiting the amount of this data, but also in its proper use.

The assessment of the service quality, including e-services, should be completed, if necessary, with the definition of appropriate actions aimed at improving the current state (Klimecka-Tatar, 2018). This allows not only to improve the level of quality, but also have a positive effect on the attitude of customers and the level of their satisfaction. Continuous improvement, Kaizen (Rosak-Szyrocka, 2019) are therefore an indispensable stage of the e-service quality management process.

The topic of e-services is still particularly important at the present time due to the prevailing Covid-19 pandemic and restrictions of the traditional trade. E-services have become a window to the world, but also an opportunity to do ordinary, everyday purchases despite the limitations. Enterprises that had properly prepared online platforms and prepared e-service offers could continue their activities, becoming those that are not so much exposed to the negative effects of the pandemic.

The aim of the paper is to assess the functioning of the selected internet platform and its operation by customers. The Sitequal method, a variation of the Servqual method, was used during the research. The quality dimensions proposed by Yoo and Donthu (Yoo and Donthu, 2015) were used for the analysis. The survey was conducted among the customers of the chosen e-shop. They allowed not only to assess the quality of e-services provided by this facility, but also to check whether the proposed scale is actually useful, especially taking into account the requirements of European customers, and thus in the conditions of the Eastern European economy.

2. DIFFERENT SCALES USED IN E-SERVICE QUALITY ASSESSMENT

When defining the quality dimensions that should be included in the e-service quality research, it is important to take into account the entire e-service process provision, i.e. from the beginning to the end of the transaction, including information search, website navigation, ordering, interaction with the service customer, delivery and satisfaction with the ordered product (Wolfinbarger and Gilly, 2003). The process of providing both traditional and e-services consists of many stages, and all these stages should be considered in the assessment as customers may have different opinions about them.

Despite all efforts, many e-shops' designs fail because they do not meet customer expectations (Ingaldi and Ulewicz, 2019). The use of quality assessment methods in this case can help in the appropriate design of e-shops, websites where the e-service ordering process takes place, but also in designing the course of providing these e-services.

The traditional Servqual scale often described in the literature and used for research (Knop, 2019; Ulewicz, 2016; Kowalik, 2020) does not work in the case of e-services, due to the dimensions used in them. It does not contain many elements that are not found in traditional services. Therefore, scientists from around the world are constantly looking for a universal solution that could be used to assess the quality of e-services offered by various types of e-shops around the world. Examples of such solutions are presented below.

WebQual evaluates the quality of a website from the point of view of the "customer voice", the approach taken in implementing quality functions. It is used to assess customer perception of online bookstores, one of the more mature areas of e-commerce (Barnes and Vidgen, 2001; Barnes and Vidgen, 2002). However, this scale does not cover all aspects of the purchasing process and therefore does not constitute a comprehensive evaluation of a website's service quality.

Another example is a 14 point scale called eTailQ. The scale includes four factors: website design (including some design-related attributes as well as personalization and another product selection), reliability / fulfillment (including accurate product representation, on-time delivery and order accuracy), privacy / security (sense of security and trust in the service) and customer service (combining interest in solving problems, willingness of staff to help and quick response to questions). Wolfinbarger and Gilly's goal of creating a scale to measure customer perception of e-tailing quality is excellent, and their three-point approach is comprehensive (Wolfinbarger and Gilly, 2003).

An interesting example is the multi-point scale (ES-QUAL) for measuring service quality. It deserves special attention, because it was developed by scientists who are the fathers of the Servqual method, which is the most frequently used method for assessing the quality of traditional services. The basic ES-QUAL scale (suitable for the entire aWeb customer base) is a four-dimensional, 22-point scale, while the E-RecS-QUAL (suitable for the part of the customer base with data recovery experience) is a three-dimensional, 11-point scale (Parasuraman et al., 2005).

Yoo and Donthu argue that many of the pre-built scales can be used to judge website performance rather than quality. With some of them, it is impossible to capture the cognitive assessments and attitudes of consumers towards websites that are more reliable indicators of online shopping behavior. Some measures do not show the structure of the quality dimensions. Many measures are designed primarily as performance metrics for general websites rather than online shopping sites, making it impossible to gauge online shopping behavior because these scales do not take into account attributes such as ordering, pricing, security, and payment methods. Therefore, they developed and empirically verified their own tools to measure the perceived quality of your internet shopping site (i.e. SITEQUAL). According to authors, this scale can be used to assess the quality of online store websites and to examine how website quality affects user behavior online, such as search patterns, website patronage, and customer purchasing decisions (Yoo and Donthu, 2015).

The arguments of Yoo and Donthu, their proposed Sitequal scale, and the fact that these authors were the precursors of creating scales for the evaluation of e-services, causes that in the research presented in this paper assumptions of this scale was used and its usefulness in European conditions was checked.

3. MATERIAL AND METHODS

The aim of the research was to assess the service process provision by the chosen e-shop, which help to indicate potential directions for its improvement. The research took the form of an electronic questionnaire, which was completed by 178 customers of this e-shop in the period January-March 2021.

It was decided to use the assumptions of the Sitequal method to check not only the quality of e-services offered by the research e-shop, especially in terms of the assessment of the online platform, but above all to test the respondents' reaction on the above-mentioned scale. That is why, apart from the attributes of e-services offered by the surveyed e-shop, the respondents will also be asked to evaluate the questionnaire form itself. Therefore, it was assumed that the survey should be completed by a minimum of 150 customers.

The survey questions are from Yoo and Donthu research (Yoo i Donthu 2015) who described the Sitequal method and compiled the attributes used in it. Additionally, by conducting research, it was supposed to be checked whether the ready Sitequal method is also applicable to e-shops and the quality of their services in the conditions of Eastern Europe economy. The attributes used in the research are as follows:

Overall Site Quality
1. This site is of high quality.
2. The likely quality of this site is extremely high.
3. This site must be of very good quality.
4. This site appears to be of very good quality.

Attitude Toward the Site
5. This site makes it easy for me to build a relationship with the company.
6. I would like to visit this site again in the future.
7. I am satisfied with the service provided by this site.
8. I feel comfortable in surfing this site.
9. I feel surfing this site is a good way to spend my time.
10. Compared with other shopping sites, I would rate this one as one of the best.

Site Loyalty
11. I consider myself to be loyal to this site.
12. This site would be my first choice.
13. I will not shop on other sites as long as I can access this site.

Site Equity
14. It makes sense to buy on this site instead of any other site, even if they are the same.
15. Even if another site has the same features as this site, I would prefer to buy on this site.
16. If there is another site as good as this site, I prefer to buy on this site.
17. If another site is not different from this site in any way, it seems smarter to purchase on this site.

Purchase Intention
18. I will definitely buy products from this site in the near future.

19. I intend to purchase through this site in the near future.
20. It is likely that I will purchase through this site in the near future.
21. I expect to purchase through this site in the near future.

Site Revisit Intention
22. I am likely to revisit this site in the near future.
23. I am encouraged to revisit this site in the near future.

The respondents assessed each attribute twice, first of all expectations regarding the e-services of the e-shop, and then their feelings and perceptions of the e-services provided by the research e-shop. A 7-point Likert scale was used, where 1 means "I completely disagree" and 7 "I completely agree". Then, they were asked to indicate the importance of individual groups of attributes, assigning them points. They had a total of 10 points at their disposal. Additionally, an option to comment on the conducted research has been added.

The analysis of the obtained results was carried out in accordance with the assumptions of the Servqual method. In the paper only selected research results were presented, i.e. the difference between perception and expectation for individual attributes and for groups of attributes. Finally, the overall Servqual (plain and weighted) were shown.

It should be emphasized, however, that this analysis was preceded by a reliability analysis with the use of the Cronbach Alpha test, and the interpretation was carried out in accordance with the assumptions presented in the work by Hair et al. (Hair J.F.Jr., Babin B., Money A.H., Samouel P. 2003).

4. RESULTS AND DISCUSSION

The analysis of the results began with the analysis of the reliability of the obtained results. The Cronbach Alpha test was used to achieve this aim. The results of the analyzes are presented in Tables 1 and 2.

Table 1
Information on analyzed data

		Quantity	Percentage fraction
Number of respondents	Correct	172	96.6
	Excluded	6	3.4
	Total	178	100.0

Table 2
Cronbach Alpha test's results

Część ankiety	Cronbach Alpha	Liczba pozycji
Entire survey	0.821	23
Overall Site Quality	0.712	4
Attitude Toward the Site	0.793	6
Site Loyalty	0.877	3
Site Equity	0.814	4
Purchase Intention	0.764	4
Site Revisit Intention	0.801	2

The respondents completed 178 questionnaires, but 172 correctly completed questionnaires were analyzed, which constitutes 96.6% of all questionnaires. The reliability analysis with use of the Cronbach Alpha test allowed to indicate that both for individual attribute groups in the survey and for the entire survey, the results can be further analyzed because the test results exceeded the level of 0.7, and in some cases even the level of 0.8.

In Figure 1 the average differences between the perceptions and expectations for individual attributes were presented, while in Figure 2 for each attribute group.
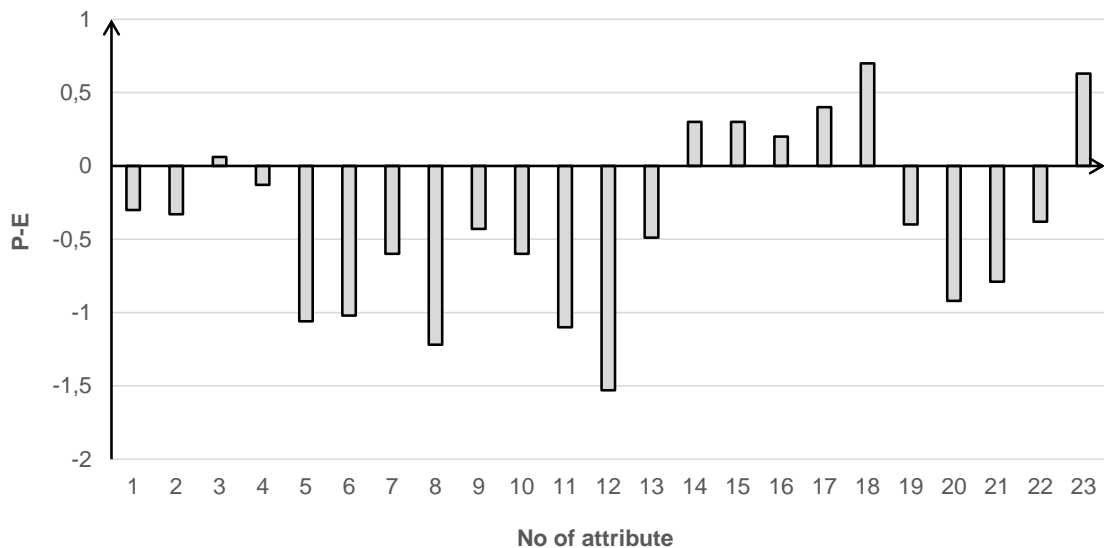

Fig. 1. Average difference between perceptions and expectations for each attribute (own study)

When analyzing Figure 1, large differences in the results can be noticed. Some attributes result in customer satisfaction, but most of them dissatisfaction, in some cases quite significant. Thus, it can be said that the obtained results are not homogeneous and individual attributes cause different feelings among customers.

The respondents felt the greatest satisfaction in relation to the research e-shop in the case of attributes 18 (I will definitely buy products from this site in the near future), and then 23 (I am encouraged to revisit this site in the near future). These are attributes that indicate the possible loyalty of the respondents.

The greatest dissatisfaction was noted for attributes 12 (This site would be my first choice), followed by 8 (I feel comfortable in surfing this site), 11 (consider myself to be loyal to this site), 5 (This site makes it easy for me to build a relationship with the company) and 6 (I would like to visit this site again in the future). Such responses are a bit strange, because they are in part in contradiction with those that result in customer satisfaction.
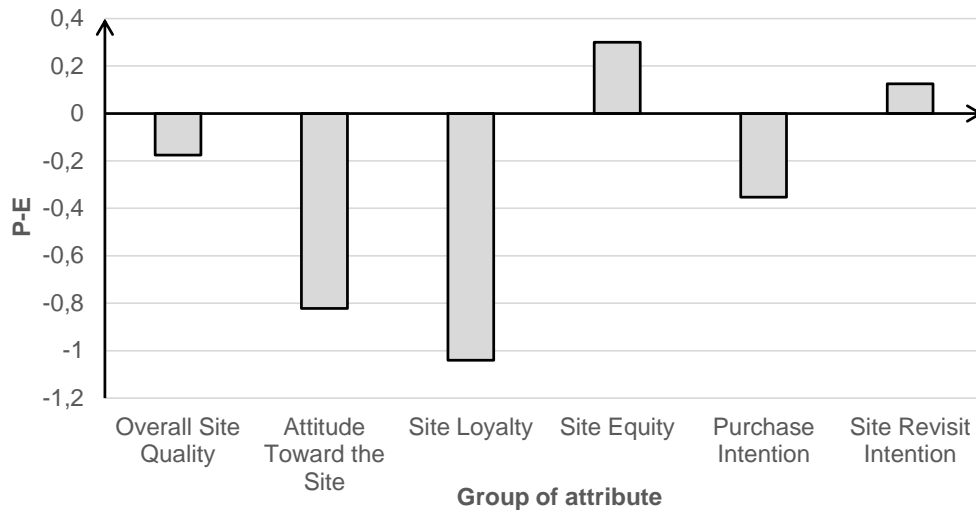
Fig. 2. Average difference between perceptions and expectations for each groups of the attributes (own study)

When it comes to the average level of satisfaction of individual attribute groups, also in this case a large differentiation can be observed. Two groups of attributes resulted in customer satisfaction, i.e. Site Equity and Site Revision Intention. In the case of two groups of attributes, a very high dissatisfaction was noted, i.e. Site Loyalty and Attitude Toward the Site.

To determine the level of customer satisfaction with the services of the research e-shop, the Sitequal S = P-E ratio was calculated for the entire survey in total. The calculations were made in two ways: Sitequal and Weighted Sitequal. In order to be able to obtain a Weighted Sitequal result, first the average weights for each attribute group were calculated and presented in Figure 3 as a radar chart.
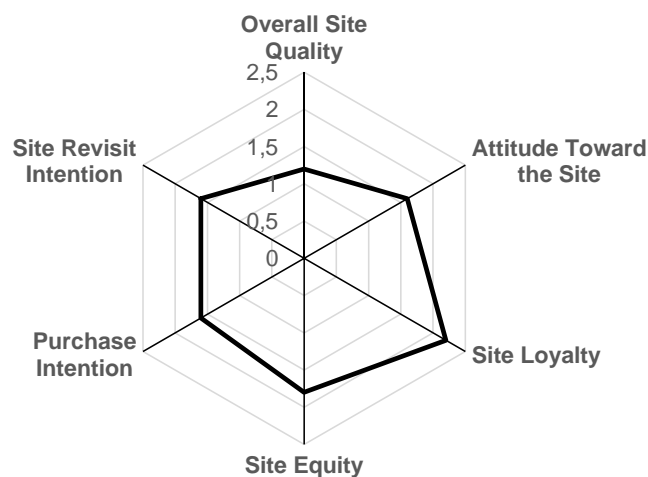

Fig. 3. Weights of each group of attributes (own study)

When analyzing the importance of attribute groups, it can be noticed that the most important group for the respondents was Site Loyalty, while the least important was Overall Site Quality. This result is also important for the e-shop itself, as it shows that respondents feel loyal to the research e-shop in which they make their purchases. Sitequal's results were as follows:

$$Sitequal = -0.327 \tag{1}$$
$$Weighted\ Sitequal = -0.364 \tag{2}$$

When analyzing the results of surveys regarding the assessment of the quality of services offered by the research e-shop, a slight average dissatisfaction can be noticed (Sitequal and Sitequal weighed slightly below 0). However, attention should be paid to one detail that is not visible in the results presented in the article, namely high requirements for the services of the research e-shop (average 6.501), with slightly lower ratings for the perception of e-services (average 6.12). Which means that the services, despite the customer dissatisfaction, are of a fairly high level as they received quite high ratings from respondents in the case of perception.

As mentioned in the methodology, the proposal of the assessment of the quality of e-services described by the Yoo and Donthu research (Yoo nad Donthu, 2015) was used. When analyzing the obtained results, it was noticed that many of the attributes do not really refer to the e-service itself or the website through which customers order them. Some attributes are more related to customer feelings, which are very subjective, and predict their future behavior.

Many respondents commented on the questionnaire that they were bored with the questionnaire due to the fact that many questions overlapped. They felt as if they answered them several times, and the difference was only in their design. They also indicated a very limited number of attributes describing e-services, e-shops or the functioning of the website. It can therefore be concluded that the Sitequal scale proposed by Yoo and Donthu is not a universal scale, and its use depends to a large extent on what the company needs to learn, what are the goals of the conducted research.

Therefore, when conducting similar research, it is worth considering the usefulness of the ready-made research methods. Perhaps, however, it is better to receive own attributes that can better describe a given object. Such results confirm the importance of extending research in the field of e-services by other researchers who created other, competing scales.

5. CONCLUSIONS

Assessment of the e-services quality is a key element that may affect not only the future of the enterprise but also help to improve the e-services offered by this enterprise. The assessment process itself is not difficult. The worst stage is the selection of the appropriate quality dimension, which will give appropriate information on the e-services, but their number should be limited, otherwise the respondents can get bored during the survey and refuse to continue to answer. There are many scales in the literature that contain ready-made quality dimensions for e-services.

In the paper the Sitequal scale proposed by Yoo and Donthu was used. The quality of e-services offered by the chosen e-shop was assessed. Additionally, the respondents were asked for their opinion on the selected scale.

The results of the research showed a slight dissatisfaction of customers. Two groups of attributes, i.e. Site Loyalty and Attitude Toward the Site, greatly influenced these results. Actions in this area are required to improve the quality of the offered e-services and help increase customers' satisfaction.

The respondents additionally indicated some weaknesses of the used scale, i.e. the repetition of questions and the lack of question about e-services and the research facility. This can mean that the selected scale was not fully suitable for the evaluation of e-services in the examined facility. Therefore, there is a need to check other dimensions of the quality of e-services or to create and verify a different, new scale.

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