LOOKING FOR THE E-COMMERCE QUALITY CRITERIA: DIFFERENT PERSPECTIVES

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Abstract. *To assure a successful development of e-commerce, it is necessary to define the criteria that could guide the choice of a competitive e-commerce system and its quality evaluation. The aim of this study was to bring together and analyze the e-commerce quality criteria proposed in the scientific literature, by e-commerce experts, and important for customers. Analysis allowed to identify a triple set of e-commerce quality criteria, as well as the differences among the criteria provided by invoked sources.*

Key words: *e-commerce, quality criteria, quality evaluation*

Introduction

With the internet penetrating daily life, a new business area has emerged: now we have an electronic market which develops quite rapidly and tends to impact economy more and more. The statistically remarkable growth of electronic commerce (hereinafter e-commerce) shows businessmen to have realized that e-commerce allows business to enlarge its market on the international level through the internet. Aiming to reinforce business competitiveness and to make it successful in the global market, it is necessary to analyse the quality characteristics of e-commerce.

The universally accepted ISO 9000 standard presents quality as a relative concept – relative to a set of clear requirements. Thus, the quality of e-commerce depends on a set of its characteristics and requirements and shows how well the features comply with the defined requirements. However, in the e-commerce context, there is no broadly accepted set of requirements there are no guidelines or rules on how to assess e-commerce quality, to choose an appropriate system or improve it, whereas those who are designing the e-commerce model and implementing IT solutions should get a whole amount of information concerning the properties of the implemented solution, its potential impact on the business perspectives and the related risks. Thus, before the e-commerce system is implemented by a company, it must be thoroughly analysed: it is important to define

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the criteria that could sewe as a guide in choosing the appropriate e-commerce system and evaluating its quality.

The **aim of the** study was to identify the most relevant e-commerce quality criteria based of three knowledge sources: scientific literature, e-commerce experts' survey, and e-customers' survey.

To this end, the following **research methods** were invoked: the conceptual content analysis, which allowed rating the most often used e-commerce quality criteria mentioned in the scientific literature; the experts' survey, which enabled to refine the criteria mentioned in the literature and to identify those most relevant nowadays; the e-customers' survey, which allowed to select the e-commerce elements most important for e-customers, as the competitive e-commerce system needs to be flexible and easily adaptable to the various and numerous user requirements.

This paper presents the results of the analysis which allowed to discover a triple approach to e-commerce quality and to identify a set of e-commerce quality criteria.

E-commerce quality criteria in scientific literature

The efforts to define the components important for the e-system's performance were made as far back as the 1980s. In 1983, Ives et al. indicated three dimensions that define the quality of the e-system: interactivity, access, and the will to use this system, demonstrated by users. The interest to e-commerce increased in the late 90s when more and more papers discussing the internet products and their evaluation appeared in the literature. For instance, Kettinger and Lee (1994) link the evaluation of e-system's quality with the impression made on the customer, i.e. the perception of the system's reliability and empathy. Dabholkar (1996) mentions the aesthetics and reliability as well, but not only. According to this author, the quality of the e-commerce system can be assessed by the level of the system's efficiency, ease of use, information relevance, flexibility and security. Meantime, Alba et al. (1998) restrict the evaluation criteria to the information quality, which is treated as an essential aspect of e-commerce quality. Blin et al. (1998) proposed to use the quality factors indicated in the IEEE1061 and ISO 9126 standards: efficiency, functionality, maintainability, portability, reliability, and usability.

Authors of the later period, when e-commerce began to develop more and more, extend the criteria to the offline area processes; e. g., Ho and Wen-Hsiung Wu (1999) among other criteria mention the post-purchase support, e-commerce system's technical characteristics that help to improve the client–system relations, the characteristics of provided information when attention is concentrated on information reliability; also they mention the aesthetic details of design, the quality of offer, and the competitivity of price. Keeney (1999) emphasizes the safety of transactions and private data, access to the information and the fullness of this information. He accentuated a clear indication of the final amount of transaction before the final stage of confirming it, the good assortment,

and the possibility to compare goods and prices. As to the offline area, he mentioned the importance of conformance to the delivery conditions and the possibility to contact a consultant. Liu and Arnett (2000) named the key website quality dimensions concentrated mainly on the online environment of e-commerce: the quality of information and services, functionality of the system, and quality of design. Zeithaml et al. (2000), in addition to reliability, usability, system functionality, flexibility, safety, price-communication and aesthetics, proposed to evaluate the reactivity of the website, accessibility, warranty (which influences trust), and personalisation. Szymanski and Hise (2000) dedicated more attention to the safety of transactions, the customer's comfort, information (quality and quantity), offer, and aesthetic details of design. Sang and Young (2001) defined as important criteria the pleasure and comfort of use, the reliability of the system, the speed of its actions, the quality of information, i.e. the aspects that are evidently important for the website but insufficient for evaluating the quality of the whole e-commerce system. Rolland (2003) mentions the findings of Boonghee and Nonthu (2001) who for the evaluation of e-commerce quality proposed to consider the aesthetics of the website, the usability, price competitivity, brand image and uniqueness of the offered products, warranty, safety of transactions, and reaction to customers' queries. Meantime, Galan and Sabadie (2001) write more about the localization of the offer proposed to the consumer through the e-commerce system (suitability of the offer to the target market), accessibility, technical issues, interactivity, warranty, personalization and aesthetics.

Many authors identified the important aspects of e-commerce and websites basing on the customers' surveys. For example, Vidgen and Barnes (2001) interrogated 1013 respondents and revealed the following e-commerce aspects of importance: quality of information, quality of interaction (which manifests through trust and empathy), usability, and design. Another poll of the same coverage (1013 respondents) was performed by Yoo and Donthu (2001); apart the usability and reaction, they identified such criteria as aesthetics, offer uniqness, price competitivity, certification (warranty) of production quality, the company's image, and the system's safety. Based on the users' opinion poll (1013 respondents), Janda et al. (2002) made a list of quality criteria "IRSQ", which includes the e-shop performance, accessibility, the system's safety and reliability, sensation, and the characteristics of provided information. Other authors, e.g., Wolfinger and Gilly (2002), have elaborated a ComQ list of criteria based on the 1013 respondents' opinion poll; the list is limited to reliability, design, online support, safety, and confidentiality criteria. A larger poll (2071 respondents) was performed by Srinivasan et al. (2002); it allowed the authors to identify eight evaluation criteria: personalization, interaction, loyalty support, attention to the customer, strong community, usability, choice, and pleasant navigation. The aspects linked with customer satisfaction were noticed also by Reibstein (2002) who proposed to evaluate the user-friendliness of the ordering system, usability, assortment, information about offered production, data safety, price,

delivery terms, and additional services. Bressolles (2002) orients e-commerce quality evaluation to the quality of offer, the ergonomics and design of the e-shop, interactivity, reliability, and warranty. Aladwani and Palvia (2002) proposed an integrated four-dimension (technical quality, general content quality, specific content quality, appearance quality) view of the website quality. As a result of the research carried out by Aladwani (2006), the technical quality was found to be the only dimension of the website quality to influence purchasing. Thus, Aladwani (2006) supposed that the customer's decision to buy depends on the perception of the technical e-commerce system quality.

Wolfinbarger and Gilly (2003) developed the EtaiQ model in which the analysis of website performance is based on four dimensions: the design of interface, services, reliability, conformity of delivery with announced terms, and safety. A longer list of evaluation criteria was proposed by Rolland and Wallet-Wodka (2003): they identified such quality dimensions as visibility (e-shop is easy to find), usability, aesthetics, offer quality, interactivity, personalization, safety, information important for choice and stimulation of purchase, reliability, authority (image), client support. The aspect of visibility identified by Rolland and Wallet-Wodka (2003) appears a bit earlier in the model for website quality evaluation, called VPTCS (Visibility, Perception, Technique, Content, and Services) proposed by Sloïm (2001). The quality of visibility is defined as the ability of the website to be found by a potential user. The quality of perception as an ability of the website to be used and properly perfected by the user covers the ergonomics, design, and usability. The quality of techniques is understood as the ability of the website to behave in the way foreseen by developers and expected by users. The quality of content covers the adequacy and clearness of provided information, content localization, legibility, relevance to reality, etiquette. The quality of services is the ability to provide useful services: e-logistics, organization of delivery in good time, technical support, etc. Another system of e-solutions' evaluation – Netqual – assesses quality based on five dimensions (Bressolles, 2004): usability, reliability, design, safety and confidentiality, information, i.e. evaluation is performed by the criteria oriented directly to the comfort and safety of the user.

With the development of e-commerce and other e-services, the Servqual method by Parasuraman et al. (2005), largely discussed in the literature, was adapted for the evaluation of e-service quality; it covers four main dimensions: efficiency, system availability, fulfilment, and privacy. Such a model was created specifically for assessing the quality of service delivered by e-shops.

The review of literature shows similar online aspects of e-commerce, raised by different authors: design (Liao et al., 2006; Jin and Park, 2006), quality of information provided in the website (Liao et al., 2006; Lin, 2007), safety (Shin and Fang, 2006; Jin and Park, 2006), technical characteristics, usability, and reactivity of the system (Liao et al., 2006; Shin and Fang, 2006). In addition, Jin and Park (2006) introduce the aspects of

order fulfilment, communication, and advertising. Nowadays, the number of requirements for e-commerce is increasing, and the requirements extend from safety context to the context of comfort and practicability. For example, Isaac and Volle (2008) have defined four e-commerce analysis axes: communication, management, offer, and profitability. As the criteria they proposed the quality of offer (assortment and price) and of provided information, the functionality of website, interactivity, reaction speed, content updating, safety of transactions and personal data, and visibility (e. g., e-shop position in the search engines). Apart from the named criteria, Isaac and Volle (2008) particularly emphasized the usability, modes and price of delivery, and additional services. Liang and Chen (2009) findings are based on a survey of 656 respondents, which identified the aspects of e-commerce mostly oriented to the user's comfort: relevance of information, proposed assortment, usability, user-friendly navigation, reliability, client relations.

It would be fair mentioning that not only scientists but also commercial structures create models of e-shop quality evaluations: e. g., Bizrate.com, Gomez.com, CIO.com Temesis.com etc., but no one of them is universally used.

A review of quite vast essays found in the scientific literature shows that there is no common and universally accepted way to evaluate e-commerce quality; moreover, in most of essays there is no indication of how to improve the e-commerce system after quality assessment (Guseva, 2010). The analytical basis for the identification of relevant criteria of e-commerce quality evaluation was inspired by the publications' network principle, i.e. by searching for the pertinent papers referred to in the articles concerning the quality of e-solutions. It was examined through selection of the aspects mentioned by authors as quality criteria. The interactive coding method was invoked when both the implicit and explicit appearance of e-solutions' quality criteria in texts had been noted; thus, a high generalization level was achieved. Considering the performed review of the literature and employing the method of conceptual content analysis, the criteria mentioned in the literature more than once were selected and ranged by mentioning frequency (Table 1).

Such a list allowed identifying the most frequent e-commerce quality criteria mentioned in the literature. The software quality and online elements of the e-commerce system dominate in the web solution quality models. The concept of "empathy" used in Table 1 must be clarified: according to Suslavičius (2006), human emotions are associated with thinking, beliefs and desires, i.e. people with empathy usually can more accurately describe the direction of human thoughts and prejudices. Thus, in the context of e-commerce, we may conclude that empathy can be seen as the ability of the system's developers to understand and realize the aspirations and wishes of the client. So, clients feel understood and satisfied while using the system.

After the conceptual content analysis, the criteria were grouped by topics, and the topics (not separate criteria) were ranged by frequency. We can estimate the importance

TABLE 1. **The ranged list of e-commerce quality criteria** (compiled by author)

E-commerce quality element	Men-tioned
Information – the originality, relevancy to the context, reliability, clearness of provided information and the ability of its content to meet customer expectations	30
Usability[1] – flexibility, ergonomics, intuitivity of navigation	26
Safety of transactions and personal data – the ability to ensure data safety, which is especially important in online payment	24
Reliability – the ability to observe promises and engagements	15
Design – the quality of visual component of the e-shop, creation of positive impression	15
Interactivity and communication – the characteristics of online communication, the intensity of interaction and its results	15
Access – the visibility of the e-shop in the internet, accessibility of provided information and workability of the used format	13
Efficiency – the ability of the e-commerce system to meet customer's expectations and to reach the goal	12
Offer – the part of content, which is particularly important for an e-shop; it must stimulate purchases, give to the customer all unerring information needed to induce him to purchase	11
Warranty, goods returning conditions – characteristics of post-purchase services	10
Loading time (speed) – technical characteristic of an e-shop, manifested through e-shop displaying speed and time of page loading	9
Trust – predisposition of the user to trust the information provided by a particular e-shop; this predisposition is often impacted by e-seller image in the user's conscience; this element impacts the predisposition to buy	9
Services – characteristics of the concomitant services	9
Price – reasonable pricing, clear summary of whole price components	8
Delivery – the quality of delivery regarding time, mode and form	8
Aesthetics – a subjective characteristic, the general impression about the e-shop. This element is impacted by the visual e-shop component and by the style of goods' presentation	7
Assortment – the quality and breadth of range of goods offered by an e-shop, the strategy of offer	7
Online support – the possibility to get help online, the efficiency and quickness of resolving problems	6
Customizing (personalization) – the technical characteristic which allows to identify a particular user and to customize the system according to his preferences and needs	5
Image – the impression made by the e-seller and the e-shop; a subjective characteristic	4
Empathy (3) **and Pleasure** (1) – the capability of e-seller to foresee and meet the needs of the customer in such way that the customer feels understood and satisfied while using the e-shop; the generation of positive emotions	4
Utility (serviceableness) – the ability of the e-commerce system to help users to reach their goals: for the customer – to buy, for the seller – to sell	2
Reactivity – the quickness of response to customer's requests, orders; feedback	2

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[1]   Usability here is understood as the extent to which an e-solution, e-system or information is ready to be used.

of each topic defined by a "resumptive characteristic" and to eliminate the risk of criteria overlapping.

The resumptive characteristics by mentioning frequency were ranged as follows:

- Online Content elements (information, offer, price, assortment) were mentioned 56 times;
- Technical components (loading time, personalization, efficiency, utility) including the safety of transactions and data – 50;
- Online Usage aspects (usability, access, and utility) – 41;
- Client Relations (interactivity and communication, services, online support, reactivity, empathy) – 35;
- Loyalty (reliability, trust, image) – 28;
- Perception (design, aesthetics, pleasure) – 23;
- Components of offline environment (warranty, goods returning conditions, delivery) – 18.

The list of criteria grouped by topics shows the topic's criteria most often considered by researchers and developers and those deficient of attention. The e-commerce quality criteria grouping shows that the most often mentioned criteria are linked with the online content, technical characteristics, and particularities of the e-commerce system usage. Client relation management (both in online and offline environments) and factors of loyalty creation are in the middle of ranking. The aspects of user perception are mentioned less often, and e-commerce components of real environment are least invoked for e-commerce quality evaluation in the reviewed literature.

It is important to emphasize a special position of safety: this criterion, even not grouped with the others, is placed on the 3rd line of the list of solitary criteria. This shows a particular importance of safety, especially in e-commerce with online paying (Guseva, 2009).

Considering the fact that the analytical basis covers the sources of a long period, the actual most relevant e-commerce quality criteria should be reviewed nowadays; thus, the experts' survey was performed to refine the actual quality criteria.

E-commerce quality criteria indicated by experts

The refining of e-commerce quality criteria was performed with the help of reconnaissance survey of experts' opinion, conducted in November 2008 – January 2009. Aiming to ensure the equality of scientific and practical approaches, an equal number of experts from scientific and practical fields was chosen. The opinions on e-commerce quality criteria were expressed by 8 experts (from France (5), Lithuania (2), and Russia (1)) who were picked for the survey considering their input in scientific publications and good practice in developing e-commerce. The results of experts' survey are presented in Fig. 1 in which separate experts were visualized in circles, and the arrows show the e-commerce elements chosen by each expert as critical for e-commerce.
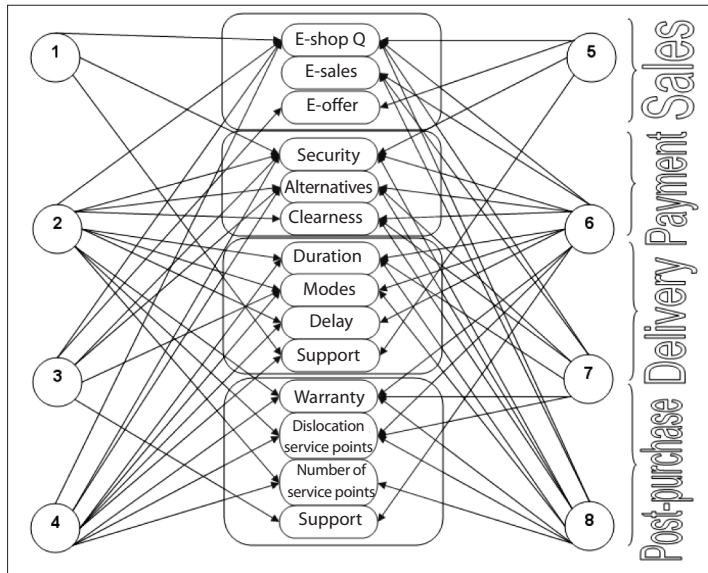
FIG. 1. **Visualisation of experts' survey results** (compiled by author)

The mentioned e-commerce elements are grouped according to their appearance in the purchase process – from sales to post-purchase services. On the first customer–businessman contact point, the experts highlighted the importance of e-shop quality, the quality of e-offer; also the number of e-purchases can be treated as an e-commerce quality indication. At the payment stage, payment security was evaluated as most important (the valid certificate of security was indicated as a possible security proof), as well as the payment alternatives' variety was treated as a significant issue for the positive perception of the payment organization quality. Four of the eight experts indicated the clearness of the operational payment system as a relevant criterion of e-payment evaluation. At the delivery stage, the delivery term and mode were presented equally in experts' considerations, as well as the provision of client support during delivery was highlighted by invoked experts. For the post-purchase service quality assessment, the term of provided warranty and service point dislocation criteria were indicated. Some of the experts mentioned the importance of client support atn the post-purchase stage. Thus, the experts consider the client support as indispensable at the offline e-commerce stages (delivery and post-purchase stages), which take place after payment.

At the first stage of e-commerce, the content quality (e-offer quality) prevails; experts' opinion on the importance of payment security is similar to the e-payment priorities found in the literature. Offline e-commerce stages are insufficiently considered in the literature, but they attracted the experts attention. Thus, to enrich the knowledge about the relevant criteria of e-commerce quality evaluation from e-customers' point of view, an e-customers' survey was performed.

Customers' approach to the e-commerce systems' quality characteristics

A survey of e-customers' opinion was conducted in 2009. It was focused on the e-customers potentially interested in purchasing from Lithuanian e-shops. Since the geographical location of Lithuania in the logistics context is favourable for transactions both with the EU and the CIS countries, along with the answers of e-customers from Lithuania, also answers from the EU and CIS countries were accepted in the random sample of 204 filled questionnaires. The response rate reached 32.7% of the persons that had received the questionnaire. One third (33%) of the sampled questionnaires was filled by e-customers from Lithuania, 36% from CIS countries (mostly from Russia), and the rest from other European countries. The frequency of purchases in the sample can be divided into three groups: about 23% of respondents purchased online every month, near a half (49%) of respondents made online purchases every 3–6 months, and others less than once per six months. Thus, the results of this survey were influenced mostly by the opinion of moderately active buyers and partly by the opinion of respondents with a greater and lesser than average purchase frequency. Considering that quite a large variety of goods can be sold online, the respondents were asked to indicate which goods they purchased online; these were mostly books, household goods and electronics which are successfully marketed via traditional sales channels, while a quarter of the respondents purchased online games (4%), software (5%) and media content (music, video, audio books, etc. – 16%), i.e. the production that can be supplied online via the internet and does not demand physical delivery. Thus, there is a reason to believe that, with such a structure of the e-shopping revealed by this survey, not only the general e-shopping preferences, but also specific aspects related to delivery and post-purchase service quality will be revealed.

Respondents were asked to assess the importance of proposed e-commerce elements on a 9-point scale. The mean values of evaluations given by customers are provided in Fig. 2.
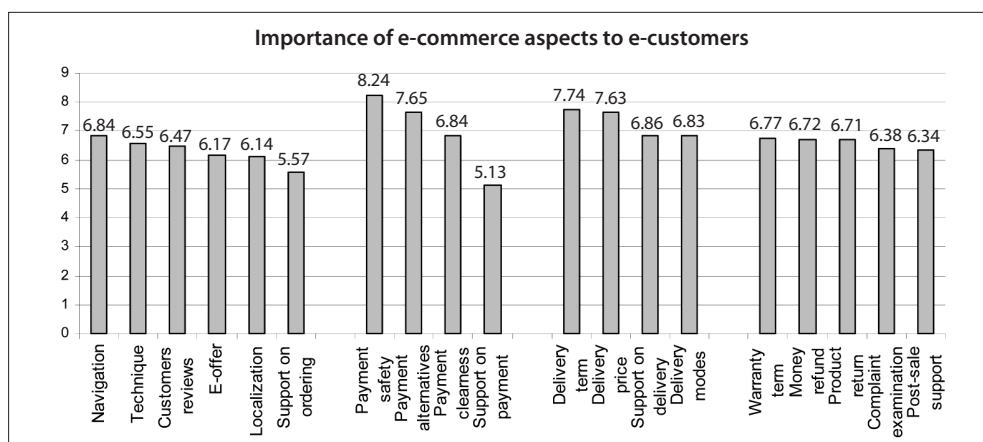

FIG. 2. **Mean values of e-commerce elements' importance** (compiled by author)

In the online ordering step, we can identify three main units of e-sales organization important for customers: technical-logical e-shop implementation (via navigation and technical characteristics), e-shop special-purpose adaptation (via offer and localization), and e-shop social role (via communication possibilities). The character of data of this part of analysis shows the customers to be most undecided about the assessment of the importance of online support in e-shopping. The analysis based on the customers' purchasing frequency shows differences in the perception of online support importance: if we divide the judgements by customer e-shopping experience (very experienced customers – purchase online every month and more often, middle-experienced customers – purchase online once in 3–6 months, and least experienced customers – purchase online less than every 6 months), we will see that the less experienced in e-shopping customers are, the more important for them is online support when choosing and ordering goods online (the mean values of online support importance for each group of customers are 5.1, 5.5 and 5.9, respectively). Thus, there is a need to customize the e-shop structure and e-offer content in a comfortable, readable, and easily understandable way, as well as to ensure the possibility of a dialog on the e-shop; this is important for stimulating the interest and purchase.

According to the survey results we can identify two main poles of payment organization: payment safety (via ensuring data safety and user trust) and comfort (via providing alternatives, clearness, and support). The respondents indicated more payment peculiarities important for them: the interactive notification of payment status, the confirmation of payment receipt, a flexible discount system, and a clear procedure of prepayment refund in case of order cancelling. The wish of the customer to pay in the most secure way possible dominates. E-customers prefer to pay on delivery when they are sure that the e-seller fulfils the engagements. Moreover, the fees for the way e-customers pay are of fundamental importance when choosing among payment alternatives. The survey results show the more significant importance of client support on payment for mistrustful or inexperienced e-buyers (importance of support is 5.91 from 9 points for inexperienced e-customers vs. 4.83 for experienced ones). However, the clearness of payment was evaluated as more important than client support on payment; in such a situation, it would be sufficient to ensure the clearness of the payment system in order to lower the need for online support.

Analysis of the scientific literature has showed that offline e-commerce elements lack attention and are poorly explored (Guseva, 2009). Thus, the next part of the survey, which covered the offline processes of e-commerce, was especially sightworthy. The main questions that must be answered before delivery concern the practical aspects of delivery: "when?", "how?", "how much?", and "where to get support in case of troubles?" If the e-customer finds answers to these questions, it is likely that he or she will make the order. If the real delivery will correspond to the answers found before ordering, it is

likely that the e-customer will return with a new order to this e-shop. The similarity of importance of all delivery aspects indicates that for the respondents important are not only separate characteristics of the delivery, but their complex. The complex assessment of the delivery through relative values such as the ratio of the delivery term and price, etc. could be more useful than the analysis of separate indicators of delivery.

As concerns the post-purchase service, customers evaluated the importance of its main aspects quite similarly (Fig. 2). Customers want to have a possibility, when needed, to use their rights provided by warranty. They need quite a high level of indemnity in case of online purchase. The main accent was put on the possibilities provided to the e-consumer (possibility to get a refund, to return the product, to get an assistance, etc.), but not on the extent of warranty; for example, 76% of respondents indicated that they were satisfied with the same warranty term as provided by conventional shops, 7% were satisfied with the same warranty but would like to get a longer one, and 17% were awaiting for a longer warranty term in case of e-purchase. In a special field for respondents' comments, some indicated as important for them to have a consultation on the purchased product's exploitation or help in resolving the other related issues in the physical seller's office or by online support service. Analysis of this section shows the customers' need to be in contact with the seller after purchase to ask for help or to lay claim in case of possible problems. Here it is important to mention that long-term post-purchase service can be less actual on the market of perishable goods (flowers, meals, etc.); the longer the lifecycle of a product after purchase, the more important post-purchase services and long-term warranty become.

Summary of identified e-commerce quality criteria

Upon considering three different sources of information, the identified e-commerce quality criteria were summarized in Table 2.

It can be considered that the aspects of e-sales organization quality mentioned in the literature, by experts and customers are quite similar; this fact facilitates the selection of the most actual criteria. At the first, e-ordering, stage, the following quality criteria were identified: usability (navigation), e-shop technical quality, the content of e-offer and localization, the possibility of interaction through e-shop; e.g., on the e-shopping start-point the e-customer expects a customized environment with the simulations of live communications typical of the shopping in a substantial store. The payment safety criterion is mentioned by all of the considered sources; however, the experts and the customers indicated the payment comfort aspects: requirements for payment safety can be complemented by requirements for payment clearness and alternatives. Thus, the customers extended requirements from those linked to payment safety to those linked to payment comfort.

TABLE 2. **Summary of identified e-commerce quality criteria** (compiled by author)

	E-commerce quality criteria indicated:		
	in literature	by experts	by e-customers
Ordering stage	Usability, technical quality, content relevance, perception	E-shop quality	Navigation, technical aspect of e-shop, reviews of other e-customers
	–	Number of purchases through e-shop	–
	Loyalty, localization	E-offer quality	E-offer, localization of e-shop
	–	–	Online support during e-shopping
Payment stage	–	Number of payment alternatives	Payment alternatives
	Safety of transactions and personal data	Certificate of payment safety	Payment safety
	–	Clearness of payment system	Clearness of payment system
	–	–	Online support when paying
Delivery stage	Delivery	Delivery term	Delivery term
	–	Delivery delay term	–
	–	–	Delivery price
	–	Delivery modes	Delivery modes
	Client relation on delivery	Client support on delivery	Client support on delivery
Post-purchase stage	–	Dislocation of post-purchase service points	–
	Warranty	Warranty	Warranty term
	Conditions of product returning	–	Duration of money refund; Duration of period when it is possible to return a product; Duration of complaint examination
	Client relation after purchase	Client support after purchase	Client support after purchase

The information on the possible criteria for evaluating the offline part of e-commerce, provided in the considered literature, is quite poor and imprecise; the experts' and customers' surveys enriched the list of relevant criteria for delivery and post-purchase service quality evaluation. The quality of delivery organization can be evaluated by delivery term, price, modes' variety, and client support. These elements reflect practical e-customers' expectations concerning delivery – the moment when the customer meets the seller's representative in real life. As concerns the post-purchase service, the warranty was figured in all contributions; other guarantees are required as well and can be considered as quality indications: the conditions of refund and product's returning, client support after purchase, which determines the long-term client–business relationship and client loyalty. It shows the e-customer's need for a continuous business relationship with the e-seller and for the whole complex of post-purchase services similar to ones available in conventional shops.

Conclusions

Clear and united criteria of e-commerce quality make easier the choice of a trustworthy partner in the internet, which is often difficult due to the misleading virtual image. Moreover, a benchmarking, when several partners' or competitors' systems are compared online, is more efficient through reasoned criteria of evaluation. With a view to provide the core for the successful development of e-commerce, its quality criteria were defined, basing on a triple approach: literature analysis, experts' opinions, and e-customers' preferences and requirements.

The literature analysis has shown that there is a vast range of criteria proposed for e-solution quality evaluation, but none of the models is prevailing. However, due to the noted similarities among the models, the main groups of criteria to be applied for e-commerce quality evaluation were identified. The analysis has shown that the most often mentioned criteria are linked with the online content, technical characteristics and particularities of the e-commerce system's usage, while the aspects of client relation management and user perception are mentioned less often, and e-commerce offline aspects are least invoked in the reviewed literature. Considering the large time interval covered by the analyzed literature, the set of actual e-commerce aspects requires a refinement; therefore, the experts' and e-consumers' surveys enriched the set of relevant criteria grouped by four e-commerce stages. Thus, in the website content aspect mentioned in the literature, the experts accentuate the importance of e-offer characteristics. All sources mention the system's usability and technical characteristics. The customers' survey raised the question of the social role of e-shop coming into play through client support, customer reviews and social networks. Moreover, experts' and customers' surveys show that not only safety, but also the aspects of payment comfort (variety of alternatives, clearness), which are not mentioned in the analysed literature, must be considered in e-commerce quality evaluation. The offline e-commerce processes are often ignored in the literature; however, our survey has demonstrated that the offline characteristics of e-commerce are of no less importance than the online ones. On the contrary, e-customers have a set of quite clear and important for them practical requirements, which can serve as the quality criteria for offline e-commerce stages, such as concrete conditions of delivery and post-purchase support.

It can be summarized that with the evolution of e-commerce, the requirements for it evolve as well – from safety to comfort and mutual profitability. The need for permanent client support is remarkable and increasing after payment: the client relation support of high quality, which provides business with customer's trust and loyalty, is one of the essential parts of a successful e-commerce development.

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