Assessment of customer’s satisfaction in e-commerce services

Ocena satysfakcji konsumenta w usługach handlu elektronicznego

The aim of this paper is to review various dimensions or measures of e-service quality in the context of online shopping. Based on the literature review an alternative online satisfaction assessment model has been proposed. The primary purpose of the paper is to study the relationships between the main dimensions of e-commerce quality and the e-customer satisfaction. By using correlation analysis the statistical significance and influence of proposed e-satisfaction factors has been indicated.

Introduction

Most companies are establishing websites, which are regarded as a new channel to conduct business transaction, and customers can make purchase through companies’ website. The most successful e-commerce companies are being to realise that key determinants of success or failure are not web presence or low price but delivering high quality of e-service. Price and promotion are no longer the main draws for customers to make a decision on a purchase. Online customers would rather pay a higher price to e-commerce company, who provide high quality e-service. E-service quality has a significant impact on customer satisfaction, loyalty, retention and purchase decisions. Thus, to build customer trust and loyalty, and keep customer retention, e-commerce companies must shift the focus to e-service quality, before, during and after the transaction.

Service quality can be defined as the difference between customers’ expectations for service performance prior to the service encounter and their perceptions of the service received.\(^1\) When performance is not up to expectations, customers will consider quality to be low and when performance exceeds expectations, the perception of that quality improves. So in any evaluation of service quality, customers’ expectations are fundamental to that evaluation. As service quality increases, satisfaction with the service and intentions to reuse the service increase. The quality of service generally plays a very

important role in e-commerce and online environment. Customer satisfaction is defined as the customer’s overall evaluation of firm performance based on the total purchase and consumption experience.\textsuperscript{2} Satisfaction in the online environment may also be driven by consumer benefits. These benefits include convenience, saving time and money. This implies that the drivers of web satisfaction may include website characteristics, the specific website's value, and its relative value.\textsuperscript{3}

**E-service quality in the online shopping context**

As today’s products and services are radically shifted to digital form and delivered through the Internet, the most visible and explosive information technology tool. Additionally, the Internet offers an interactive function with its customers\textsuperscript{4} and enables electronic service move to the forefront of technology priorities.\textsuperscript{5} An e-service is an interactive, content-centred and Internet-based customer services, driven by the customer and integrated with related organizational customer support processes and technologies with the goal of strengthening customer-service provider relationship.\textsuperscript{6}

In an increasingly competitive business environment, the issues of service quality and service excellence are becoming increasingly more important. The traditional Servqual-Model suggests that service quality is the gap between consumer expectations and actual service performance that informs service quality perceptions. The traditional service quality assessment concerns five attributes: reliability, responsiveness, assurance, tangibles, and empathy.\textsuperscript{7} Servqual scale has been used to measure service quality and some studies have applied this model to measure service quality in the context of e-commerce Websites, because the traditional scale is not suitable for measuring e-service quality. The generic dimensions of the Servqual model need to be reformulated in order to be used meaningfully in the context of e-commerce since e-service is quite different from traditional service. The first aspect is the absence of sales staff. In e-service, there is no service encounters between the customers and the sales staff as in the traditional service. The second aspect is the absence of traditional tangible element. In e-commerce, service processes almost completed in the virtual environment within some intangible elements. Very important in e-commerce is self-service of customers. Customers conduct self-service in purchasing and realize control in business process.\textsuperscript{8}

With the increasing application of e-commerce, the importance of measuring and monitoring e-service quality in the virtual world has been recognised. Some studies have


been conducted aiming at developing measurement scales adapted to online shopping sites. Authors propose the different dimensions of e-service quality regarding e-commerce sites:

- Access, ease of navigation, efficiency, flexibility, reliability, personalization, security, privacy, responsiveness, assurance/trust, site aesthetics, and price knowledge;
- Content, access, navigation, design, response, background, and personalization;
- Ease of use, aesthetic design, processing speed, and security;
- Website appearance, communication, accessibility, credibility, understanding and availability;
- Efficiency, reliability, fulfilment, privacy, responsiveness, compensation, and contact;
- Website design, security, information, responsiveness, ease of use, credibility, reliability, convenience, communication, access, competence, courtesy, personalization, collaboration, and aesthetics;
- Website design, reliability, security, and customer service;
- Information, interactivity, trust, response time, website design, intuitiveness, flow, innovativeness, integrated communication, business process and substitutability;
- Website design, security, reliability, responsiveness, accessibility and customization;
- Reliability, responsiveness, competence, ease of use, security and product portfolio;
- Website design, information, transaction capability, responsiveness and trust;
- Website design, information, trust, responsiveness and reputation;
- Website design, reliability, responsiveness, trust and personalization;

Efficiency, fulfilment, system availability, privacy, responsiveness, compensation, contact, information and graphic style; 22

A lot of attention today is given to customer satisfaction and trust as indicators of profitability in e-commerce. 23 A website is a key component of the online marketing strategy. This means that great care is required in designing it to serve the target market effectively and efficiently. This requires consideration of elements such as ease of navigation, aesthetics, content, accessibility, and features such as personalisation, customisation, customer self-care, and communities. All of these elements in combination will directly influence users’ experience with the site and their satisfaction. Personalisation of websites, customisation of product offerings, and self-care are the three key features that could be used not only to build relationship with the visitors, but also to enhance their experience. A customer must first participate in an exchange and then make judgements regarding the level of satisfaction and trust given to the retailers. 24

In the virtual environment of e-commerce, for customers' website is the main access to online organizations and to successful purchase process. Website is the starting point for customers to gain confidence. Website design influences customers’ perceived image of company, and attract customers to conduct purchasing online easily with good navigation an useful information in the website. Website should provide appropriate information and multiple function or customers. 25 Website design should meet the following attributes in order to attract customers to conduct purchasing online easily with good navigation and useful information on the website: appealing and well organized website, consistent and standardized navigation, well-organized appearance of use interface, quickly downloading, and easy of use the online transaction. 26

It's important for online retailers to make their sites simple, clear, and efficient Shopping is thought to be pleasurable and satisfying to consumers when the e-commerce sites are fast, uncluttered, and easy to navigate. Fast, uncluttered, and easy to navigate sites economize on shopping time. Online shopping is promoted widely as a convenient avenue for shopping. Consumers do not have to leave their home to find and obtain suitable products. These time and browsing benefits of online shopping are likely to be manifested in more positive perceptions of convenience and e-satisfaction. 27.

In the context of the Internet, trust toward online companies is often regarded as a key factor of e-commerce growth. Trust in e-commerce is related to the buying and payment process, privacy and security issues, and the reliability of the website. Privacy refers to the degree to which the website is safe and customer information is protected. This dimension

holds an important position in e-commerce. Customers perceive significant risks in the virtual environment stemming from the possibility of improper use of their financial and personal data. Risk of improper use of personal and financial data is an important barrier to e-customers to purchase online. The attributes of security dimensions are: protection of customers' financial and personal data, terms of payment and delivery, and good reputation. Lack of trust is one of the most frequently cited reasons for consumers not shopping on the Internet. Security and privacy have an impact on consumer trust in shopping on the Internet. The apprehensions of the customers regarding the security for online transactions and authenticity of goods are curtailing the success of the e-tailing model. The key reason for its low acceptance is the unwillingness of people to use credit cards for online purchases. 75% of Internet shoppers emphasize credit-card security as a major consideration when deciding whether or not to buy items online.

A very important dimension in e-commerce is reliability. Reliability is associated with the technical functioning of site, particularly the extent to which it is available and functioning properly. Reliability is the ability to perform the promised service accurately and consistently, including frequency of updating the web site, prompt reply to customer enquiries, and accuracy of online purchasing and billing. Reliability involves consistency of performance and dependability.

**Personalization in e-commerce**

Due to the rapid growth of e-commerce, consumer purchase decisions are increasingly made in an online environment. In e-commerce, interactivity between customers and companies offers opportunities to obtain information about customer, such as purchasing habits, needs, preferences, which makes it possible to offer customer personalized service. Personalised service can improve customer’s satisfaction. Not only services and products but also payment and delivery in the service process, can be personalized, which is aimed at meeting all requirements and demands of customer. Permission Marketing is the concept that a customer’s profile is built slowly over time as the individual develops trust in the e-commerce company. Many personalized websites today require that anyone who wants to use any personalization features on the site must register by filling out lengthy questionnaires. People often defeat the purpose of these forms by entering incorrect information.

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An example of personalization tool is Personal Shopper at eBay. The personal shopper feature of eBay allows customers to indicate items they are interested in purchasing. Customers input a short term and search on a set of keywords of their choosing, including their price limit. On a periodic basis the site performs the customer’s search over all auctions at the site and sends the customer an e-mail with the results of this search. The Feedback Profile feature at eBay.com allows both buyers and sellers to contribute to feedback profiles of other customers with whom they have done business. The feedback consists of a satisfaction rating as well as a specific comment about the other customer. Feedback is used to provide a recommender system for purchasers, who are able to view the profile of sellers. Other example is Amazon.com. Like many e-commerce sites, Amazon.com is structured with an information page for each book, giving details of the text and purchase information. The Customers Who Bought feature is found on the information page of each book in their catalogue. It is in fact two separate recommendation lists. The first recommends books frequently purchased by customers who purchased the selected book. The second recommends authors whose books are frequently purchased by customers who purchased works by the author of the selected book. Amazon also encourages direct feedback from customers about books they have read. Customers rate books they have read on a five-point scale. After rating a sample of books, customers may request recommendations for books that they might like. At that point, a half dozen non-rated texts are presented that correlate with the user’s indicated tastes. The Customers Comments feature allows customers to receive text recommendations based on the opinions of other customers. Located on the information page for each book is a list of ratings and written comments provided by customers who have read the book in question and submitted a review. Customers have the option of incorporating these recommendations into their purchase decision. Information content is an important element of customer satisfaction and purchase intention. Information search is often the first step in a customer’s purchase decision-making process. When customers are supplied with a more extensive set of information before purchasing from a website, they have a clearer idea of what they will receive in terms of products and services. This decreases the level of perceived uncertainty and risk, and increases customers’ comfort levels with their purchasing decisions. Online shop must give e-customers reasons to choose them over their competitors. It must offer customers suitable shopping experiences and personalize their customers’ interactions. Personalization technology allows to sell products in ways never possible using traditional tools.

One way of increase the quality of the customer experience and associated customer loyalty is to enhance the shopping experience by providing personalized and highly relevant product recommendations. Recommender systems have been essential parts of modern e-commerce sites. They enable the increase of sales by suggesting to users selected products on offer. Recommender systems are undoubtedly an interesting part of personalization. The software can support customers within their buying process by presenting recommendations that fit the customers’ personal profile as they search for

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products. Recommender systems are used by e-commerce sites to suggest products to their customers and to provide consumers with information to help them decide which products to purchase. The products can be recommended based on the top overall sellers on a site, on the demographics of the customer, or on an analysis of the past buying behaviour of the consumer as a prediction for future buying behaviour. The forms of recommendation include suggesting products to the consumer, providing personalised product information, summarizing community opinion, and providing community critiques. These recommendation techniques are part of personalization on a site because they help the site adapt itself to each customer. Recommender applications may produce recommendations at varying degrees of personalization. 38

Research methodology
The factors for e-customer satisfaction have been selected from prior literature studies. The model (table 1) ties together ten factors representing four major contexts of e-satisfaction:
1. Website quality,
2. E-service quality,
3. Trust,
4. Personalization.

<table>
<thead>
<tr>
<th>E-satisfaction determinants</th>
</tr>
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<tbody>
<tr>
<td>Website quality</td>
</tr>
<tr>
<td>E-service quality</td>
</tr>
<tr>
<td>Trust</td>
</tr>
<tr>
<td>Personalization</td>
</tr>
</tbody>
</table>

| Website quality | Ease of use |
| Website design  |
| Website content |
| Reliability     |
| Convenience     |
| Transactions security |
| Protection of customers' financial and personal data |
| Terms of payment and delivery |
| Personalization tools |
| Recommender application |

Source: own elaboration.

The primary purpose of this research was to study the relationships between the main dimensions of e-commerce quality and the e-customer satisfaction. The empirical sample was the customers of some e-commerce sites. In this research, questionnaires were distributed to the people who have browsed e-commerce website. The respondents to the e-satisfaction survey come from Silesia province. The customers were asked to indicate the dimensions which influence their evaluation of online shopping quality. Totally 300 questionnaires were distributed to potential respondents, and 183 of the 300 customers replied. Among the 183 respondents, 67 of them indicated that they have little or no experience of online shopping, and 16 questionnaires were uncompleted. The remaining 100 respondents are the basis of the study. 100 completed questionnaires have been used in the analysis of data, by using Correlation Coefficient analysis.

Respondents included 54% males and 46% females. 37% of the respondents were under the age of 25, 41% were ages 26–40, 20% were ages 41–50, and 2% were over age 50. All respondents are Internet user and the most of them are intensive users. 23% of them access the Internet less than 7 hours per week, 69% of them access the Internet between 7 and 35 hours per week, and 8% of them access the Internet over 20 hours per week. All respondents browse regularly e-commerce sites and have experience of online shopping. The characteristic of the respondents has been shown in the table 2.

<table>
<thead>
<tr>
<th>Profile of the respondents</th>
<th>Percent (%)</th>
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<tbody>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>54</td>
</tr>
<tr>
<td>Female</td>
<td>46</td>
</tr>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>18-25</td>
<td>37</td>
</tr>
<tr>
<td>26-40</td>
<td>41</td>
</tr>
<tr>
<td>41-50</td>
<td>20</td>
</tr>
<tr>
<td>51-65</td>
<td>2</td>
</tr>
<tr>
<td>Frequency of using Internet</td>
<td></td>
</tr>
<tr>
<td>Less than 7 hours per week</td>
<td>23</td>
</tr>
<tr>
<td>7 to 20 hours per week</td>
<td>69</td>
</tr>
<tr>
<td>More than 20 hours per week</td>
<td>8</td>
</tr>
</tbody>
</table>

Source: own elaboration.

The correlations among the predictor and criterion variables have been presented in table 3.

<table>
<thead>
<tr>
<th>E-satisfaction factors</th>
<th>χ² – value</th>
<th>Critical value</th>
<th>V-Cramer's coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ease of use</td>
<td>24,4</td>
<td>9,49</td>
<td>0,246</td>
</tr>
<tr>
<td>Website design</td>
<td>44</td>
<td>9,49</td>
<td>0,331</td>
</tr>
<tr>
<td>Website content</td>
<td>30,06</td>
<td>9,49</td>
<td>0,571</td>
</tr>
<tr>
<td>Reliability</td>
<td>31,55</td>
<td>9,49</td>
<td>0,279</td>
</tr>
<tr>
<td>Convenience</td>
<td>57,9</td>
<td>9,49</td>
<td>0,38</td>
</tr>
<tr>
<td>Transactions security</td>
<td>211</td>
<td>9,49</td>
<td>0,726</td>
</tr>
<tr>
<td>Protection of customers’ financial and personal data</td>
<td>148,6</td>
<td>9,49</td>
<td>0,609</td>
</tr>
<tr>
<td>Terms of payment and delivery</td>
<td>120,1</td>
<td>9,49</td>
<td>0,54</td>
</tr>
<tr>
<td>Personalization tools</td>
<td>98,3</td>
<td>9,49</td>
<td>0,495</td>
</tr>
<tr>
<td>Recommender application</td>
<td>111,1</td>
<td>9,49</td>
<td>0,527</td>
</tr>
</tbody>
</table>

Source: own elaboration.

In questionnaire, each respondent determines the importance of every factor with a five-point Likert scale (very unimportant, unimportant, neutral, important, and very important). Correlation analyze was used to estimate the unique effect of web site quality (ease of use, web site design, web site content), e-service quality (convenience, reliability), trust (transaction security, protection of customers’ financial and personal...
data, terms of payment and delivery), and personalization (personalization tools, recommender application) concerns on consumers’ e-satisfaction level.

The data in table 3 show that the correlation between all investigated factors and e-satisfaction level is statistically significant, because the $\chi^2$ value is higher that critical value.

Transaction security has the greatest impact on e-satisfaction level (V=0.726). On average, protection of customers’ financial and personal data is the second most important element driving e-satisfaction level (V=0.609). The data analysis also demonstrate that web site content (V=0.571), terms of payment and delivery (V=0.54), recommender application (V=0.527), and personalization tools (V=0.495) are very important to e-satisfaction assessments. Convenience (V=0.38) and website design (V=0.331) are the next most important predictor of online satisfaction. Finally, the data indicate that ease of use (V=0.246) and reliability (V=0.279) are of less practical significance to e-satisfaction assessments. The results showed that all ten factors of online shopping quality have positive relationships with e-satisfaction.

Conclusions

E-satisfaction with e-commerce websites helps to build customer trust, enhances favorable word of mouth, leads to repeat purchase, and predicts purchase behavior. The study indicated that four proposed dimensions of online shopping quality, including web site quality, e-service quality, trust and personalization have different influence on e-customers’ satisfaction. The key dimensions of online shopping quality, that significant influence online satisfaction level are connected with trust and personalization. Trust in online relation between company and e-customers is ranked as the most critical and important facets of online shopping quality, and has the strongest influence on customer’s perception of e-commerce quality. The results of the study suggest that there is a need for e-commerce companies to place emphasis on their web site attribute connected with security of online transaction, customer data protection, web site content, personalization, and recommender application. For e-commerce companies, providing online shopping with good service quality involves much more than creating an excellent website for customers. The traditional e-service quality dimension such as reliability or convenience have significant influence on customers’ satisfaction, but the influence is not strong compared to the influence of factors connected with trust and personalization. Online companies need to pay attention on the building of trust in online relation, which can help to improve their customers’ satisfaction level. By personalizing the e-commerce site for each user, the company signals them that it cares for the interests and needs of its users and creates an emotional connection, because personalization is targeted at fulfilling a special customer requirement.

References

Streszczenie

Celem pracy jest studium literaturowe różnych aspektów i sposobów pomiaru jakości usług w kontekście zakupów internetowych. Na podstawie przeglądu literatury został zaproponowany alternatywny model oceny satysfakcji konsumentów w środowisku Internetu. Podstawowym celem pracy jest analiza relacji między poszczególnymi wymiarami jakości usług handlu elektronicznego a satysfakcją konsumentów. Analiza korelacji pozwoliła na wskazanie statystycznej istotności oraz siły wpływu zaproponowanych czynników na poziom satysfakcji e-konsumentów.

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