THESIS SUMMARY

Ildikó Kemény

COMPETITION IS JUST A CLICK AWAY
Repurchasing and Word of Mouth Intention in the Different E-Commerce Categories

Ph.D. dissertation

Supervisor:

CSc Dr Judit Simon
Professor

Budapest, 2015
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To the Ph.D. dissertation

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1. PRELIMINARY RESEARCH AND CHOICE OF TOPIC

The Internet is now a central element in business’ sales processes from the stage of information search to the actual purchase and follow-up of the order, or even the delivery of the product or service (e.g. software, e-banking). As websites should live up to dynamically rising consumer expectations, it is crucial to be aware of the criteria by which they evaluate website quality and the influence of these criteria on their level of satisfaction and repurchasing and WOM intentions, which ultimately add up to loyalty. In order to stay competitive, such knowledge is critical for businesses. The continuously improving and growing body of research on competitiveness has a major contribution to economic development (Chikán et al., 2002) which warrants a more detailed scrutiny of online solutions as significant opportunities of the present and the future.

Even when the same product is purchased, online and offline environments provide for a different consumer experience. E-commerce offers convenient shopping time, location and delivery (Grewal et al., 2001, in: Wolfinbarger – Gilly, 2002) at the expense of personal interactions and the possibility of trying the product which is ensured by its offline counterpart. Consequently, those who prefer seeing and touching the desired product tend to shop less online (Shayesteh et al., 1999). Online shopping is typically a solitary and planned activity rather than a social event. Still, personalisation and networking opportunities as well as competitive prices offer ample advantages on top of quicker and broader access to information and retailers (Wolfinbarger – Gilly, 2003; Qin, 2007). Kuttner (1998) describes the Internet as a nearly perfect market due to instantaneous information and the ability of buyers to compare these and the offerings of sellers worldwide (in: Srinivasan et al., 2002; Qin, 2007). Price comparison sites render this process even simpler – especially in comparison to offline environments – while the costs of switching to another provider are also lower (Kwon – Lennon, 2009).

However, e-commerce is not a homogeneous area and there are a number of different options for its segmentation. The type of the purchased goods, the Internet usage of the business (pure online or hybrid online presence) and the adopted business model (e.g. the Groupon model) are all possible criteria of segmentation, and the different mechanisms operating in each segment delineated this way are worthy of a separate analysis (Wolfinbarger – Gilly, 2002; Parasuraman et al., 2005, Francis – White, 2004). Francis and White created a marketing-oriented categorisation of e-commerce in 2003 under which they identified four segments by fulfilment (offline and online) and product type, namely the market of offline goods, electronic goods, offline services and electronic services. They propose in their study that in marketing-oriented analyses of e-commerce the differences across the delineated categories should be explored.

The objective of our Ph.D. research project is to investigate how a set of relationships we are thoroughly familiar with in an offline context develops in the various e-commerce segments. We will investigate which dimensions of electronic service quality are relevant for purchases made in the four e-commerce categories of offline goods, offline services, electronic goods and electronic services, as defined by Francis and White (2003), and will analyse the effect of these dimensions on repurchasing intention and traditional and electronic word of mouth intention as a function of satisfaction in the different categories, both separately and in relation to each other. Accordingly, our main objective will be to map similarities and salient differences between the four e-commerce categories which are regarded in the model as moderating variables. Loyalty will not be analysed in this dissertation as it is the product of long-term interaction (Oliver, 1999; Vallejo et al., 2005) and as such not in line with our current objective which is to understand and explain consumer intentions and behaviours emerging in the short term.
The purpose of the undertaken research is twofold. A differentiated examination of e-commerce has been repeatedly identified in academic literature as a need and an area for future research (Francis, 2007, 2009). Yet, few studies have been published to date which implement such a separate analysis of perceived quality, satisfaction, repurchasing and WOM in the different e-commerce segments. Consequently, the aim of our study is to fill this gap. Our second objective is to inspect the subject of our research with the domestic characteristics taken into account. Despite its continuous development, e-commerce has gained less ground in Hungary than in countries located more to the West and the characteristics of Hungarian online consumers are also different, which is clearly reflected in their expectations and quality perceptions.

In addition to making up for shortcomings in academic knowledge, this research project also aims to provide guidance to e-tail businesses by presenting the dimensions which are relevant for perceived quality as well as their effect on satisfaction and the positive consequences of satisfaction. The success of online sellers depends partly on their ability to identify and adapt to consumer expectations (Zeithaml et al., 2002; Reichheld – Schefter, 2000). Quality is therefore a core driver of business strategy and a key factor in competition. With the evolution of ICT and in a constantly changing environment some of the experienced and successful companies have recognised that delivering high electronic service quality may be the key to profitability (Teimouri et al., 2012). Dissatisfied online customers experiencing service breakdowns, lost orders or inadequate complaint handling may easily abandon the business since competition is just a click away (Meuter et al., 2000; Bauer et al., 2006). In an online context, purchases are more closely associated with word of mouth recommendations rather than interaction with the seller (Smith et al., 2005), and blogs, the social media and communities are also influential factors in the decision making process (Herring et al., 2005; Bernoff – Li, 2008). Consequently, in addition to repurchasing and traditional WOM intentions, electronic WOM intention is also a central factor to be reckoned with.

This dissertation consists of three main parts. The first comprises our literature review, the second outlines our research plan and design while in the third part, the findings of our empirical research, which involved a large-sample online questionnaire and an experiment, are presented.

We will commence our literature review with general theoretical frameworks and proceed to the specific concepts and dependent variables used in our research (Figure 1). The theoretical overview is divided into five parts. In the first chapter, we will outline models of quality perception in order to identify the main differences between online and offline environments and to provide a definition for the concept of quality in the context of e-commerce. In the second chapter, e-commerce, as the environment which accommodates our analysis, will be described from a marketing point of view, with special regard to the purchase process which is a key element in the concept of electronic service quality presented in the previous sections. Against this theoretical background, we will assess the scales created for the measurement of electronic service quality and identify the scale which is most appropriate to our adopted definition. In the next chapter, we will discuss the state consumers are characterised by after they have made their decision on quality as well as the level of, and theories on, consumer satisfaction. We will then continue with the consequences linked to satisfaction in the different models, dedicating special attention to repurchasing intention and word of mouth.
2. METHODOLOGY

In the literature review, we have presented different concepts of electronic service quality, satisfaction and their consequences. Initially, our plan was to use the disconfirmation paradigm in our research, according to which satisfaction is a function of the relation of the expectations of consumers or, in this case, online customers, to the performance delivered by the e-commerce entity during the shopping transaction. However, the results of our pilot research have shown that respondents find it difficult to pinpoint their expected level of service quality. For this reason, we finally decided on direct measurement.

We used the RECIPE scale constructed and validated by Francis (2009) for the measurement of e-service quality as the significant quality dimensions were determined in this instrument with the specificities of the four e-commerce categories taken into account. Perceived electronic service quality, regarded as an antecedent of satisfaction, is measured in all categories based on similar dimensions but different manifest variables in the RECIPE scale. This method has been empirically tested and validated by foreign researchers. Sense of security and communication with customer service during the purchase are also measured in a similar fashion in all four e-commerce categories in the RECIPE scale. Although the rest of the dimensions vary by name, based on a thorough study of the manifest variables, we can establish that one of the dimensions in all four categories is linked to the webshop itself, particularly to the information available on the website and the quality of the instructions required for the purchase transaction. Accordingly, for the sake of convenience, these variables, i.e. the dimensions of website quality, product details and user account set-up, will be referred to in our analysis by the generic term of actual website quality. On closer examination, we can discover similarities also between the dimensions of exchange, reservation and online services. These dimensions all concern the quality of the actual purchase transaction, i.e. the quality experienced in relation to order placement, confirmation and payment. We will refer collectively to these dimensions below as the quality of the exchange. We chose the RECIPE scale for the purpose of our research as this is the single measurement instrument that takes account of the heterogeneity of e-commerce, identified on multiple occasions as an area for future research (Wolfinbarger – Gilly, 2003; Francis – White, 2003, 2004; Parasuraman et al., 2005). In addition, we have concluded
that the dimensions included in the scale fully cover the definition of e-service quality, meaning that it has good content validity.

The theoretical framework of our model issues from our literature review and research experience gained over recent years (Figure 2). In line with this model, the main question of our dissertation is whether there are significant differences observable in the development of satisfaction and its consequences in the respective e-commerce categories. Within the established framework, only the components of electronic service quality differ in the four categories. Based on the literature, the other relationships are assumed to be identical.

Based on the developed model, we have formulated the following research questions and initial hypotheses.

**H1:** Electronic service quality dimensions have a positive effect on satisfaction.

H1.1: The dimension of actual webshop quality has a significant positive effect on satisfaction.

H1.2: The dimension of exchange has a significant positive effect on satisfaction.

H1.3: The dimension of perceived security has a significant positive effect on satisfaction.

H1.4: The dimension of customer service has a significant positive effect on satisfaction.

**H2:** Satisfaction has a positive effect on repurchasing intention in all e-commerce categories.

**H3:** The effect of satisfaction on repurchasing intention differs significantly in the respective e-commerce categories.

H3.1: Satisfaction has a stronger positive effect on repurchasing intention in the category of offline-goods than in the category of e-goods.

H3.2: Satisfaction has a stronger positive effect on repurchasing intention in the category of offline-goods than in the category of offline-services.

H3.3: Satisfaction has a stronger positive effect on repurchasing intention in the category of offline-goods than in the category of e-services.

H3.4: Satisfaction has a stronger positive effect on repurchasing intention in the category of e-goods than in the category of offline-services.

H3.5: Satisfaction has a stronger positive effect on repurchasing intention in the category of e-goods than in the category of e-services.
H3.6: **Satisfaction** has a stronger positive effect on **repurchasing intention** in the category of offline-services than in the category of e-services.

H4: **Satisfaction** has a positive effect on **traditional WOM** in all e-commerce categories.

H5: The effect of **satisfaction on traditional WOM** differs significantly in the respective e-commerce categories.

H5.1: **Satisfaction** has a stronger positive effect on **traditional WOM** in the category of offline-goods than in the category of e-goods.

H5.2: **Satisfaction** has a stronger positive effect on **traditional WOM** in the category of offline-goods than in the category of e-services.

H5.3: **Satisfaction** has a stronger positive effect on **traditional WOM** in the category of offline-goods than in the category of e-services.

H5.4: **Satisfaction** has a stronger positive effect on **traditional WOM** in the category of e-goods than in the category of offline-services.

H5.5: **Satisfaction** has a stronger positive effect on **traditional WOM** in the category of e-goods than in the category of e-services.

H5.6: **Satisfaction** has a stronger positive effect on **traditional WOM** in the category of offline-services than in the category of e-services.

H6: **Satisfaction** has a positive effect on **electronic WOM** in all e-commerce categories.

H7: The effect of **satisfaction on electronic WOM** differs significantly in the respective e-commerce categories.

H7.1: **Satisfaction** has a stronger positive effect on **electronic WOM** in the category of offline-goods than in the category of e-goods.

H7.2: **Satisfaction** has a stronger positive effect on **electronic WOM** in the category of offline-goods than in the category of offline-services.

H7.3: **Satisfaction** has a stronger positive effect on **electronic WOM** in the category of offline-goods than in the category of e-services.

H7.4: **Satisfaction** has a stronger positive effect on **electronic WOM** in the category of e-goods than in the category of offline-services.

H7.5: **Satisfaction** has a stronger positive effect on **electronic WOM** in the category of e-goods than in the category of e-services.

H7.6: **Satisfaction** has a stronger positive effect on **electronic WOM** in the category of offline-services than in the category of e-services.

As most of the literature on electronic service quality and e-satisfaction is available in foreign languages, the extracted data should be carefully assessed and their applicability in domestic markets considered. For this purpose, we have previously carried out pilot research which provided a basis for the formulation of our hypotheses and the exploration and identification of differences between the e-commerce categories.

In the second stage, we have carried out quantitative research with the objective to test the model we have created and our hypotheses. To this end, we have implemented an **online questionnaire survey** and an **experiment** with the participation of undergraduates. For the online survey, we administered the questionnaire for online and offline e-commerce categories to 500 respondents each in an independent sample of altogether **1000 respondents**. Using this database, we have evaluated our hypotheses and model relying on the **PLS-SEM method**.
The experiment, conducted as our second piece of research, served a dual aim. First, our objective was to investigate the ratings given on a first and a second purchase (scenario A and B) of two different types of goods – an offline (clothing accessory) and an online product (e-book) – from the same webshop and whether the differences we have established as a result of our large-sample survey occur in this case as well. Second, we wanted to arrive at a deeper understanding of quality perceptions and the reasons behind customer ratings by carrying out content analysis of the comments and posts on the purchase. We used a sample of 100 undergraduates who had made a purchase online in the previous three months. All participants had to complete two guided purchase transactions in the same fictive webshop and post a comment online on their purchase experience. Each participant was asked to fill a questionnaire at the end of their purchase which we used for measuring their quality perceptions, satisfaction, repurchasing intention, and both their traditional and e-WOM intentions. We have found it expedient to perform this experiment as our large-sample online survey had a number of limitations (first and repeat purchases are not distinguished, various websites are rated). We designed the experiment with a view to eliminating these limitations while it also offered some qualitative insight into the findings. The adopted research methods are outlined in Table 1.

<table>
<thead>
<tr>
<th>Research method</th>
<th>ONLINE QUESTIONNAIRE</th>
<th>EXPERIMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Online survey, among clients of a partner in each e-commerce category or a representative sample of Hungarian 18+ Internet users</td>
<td>Online questionnaire of an online purchase transaction in all four categories in a fictive webshop (offline-goods/ e-goods).</td>
</tr>
<tr>
<td>Respondents</td>
<td>Made a purchase online in the previous 12 months</td>
<td>Undergraduate sample, made a purchase on the Internet in the previous 12 months</td>
</tr>
<tr>
<td>Sample size</td>
<td>Quota of 500 respondents each (offline/online fulfilment)</td>
<td>N = 100</td>
</tr>
<tr>
<td>Date of data collection</td>
<td>Q1 2014</td>
<td>Q4 2014</td>
</tr>
<tr>
<td>Tested hypotheses</td>
<td>H1.1 to 4, H2, H3.1 to 6, H4, H5.1 to 6, H6, H7.1 to 6</td>
<td>H2, H3.1, H4, H5.1, H6, H7.1</td>
</tr>
</tbody>
</table>

Table 1: Research methods

Source: own elaboration

3. Results

The purpose of this Ph.D. dissertation was to investigate how a set of relationships we are thoroughly familiar with in an offline context, in particular the relationship between perceived purchase quality, satisfaction, repurchasing intention, and traditional and electronic WOM, develops in the four different segments of electronic retail, as well as to compare the results obtained in the individual segments. We commenced our research by a thorough review of the relevant literature, with the focus on an in-depth study of previously formulated concepts of e-service quality. Based on our review, it can be established that perceived webshop quality, defined as the ability of an online shop to supports efficient browsing, ordering, payment and order fulfilment, is a multi-dimensional concept, and that part of the measurement models covered in the review do not fit this definition. The main concern of these models was typically the fulfilment of delivery. However, our results indicate that it is most instructive to measure e-service quality along the following four dimensions:

1. Actual website quality, referring to the structure of the physical website, including primarily the information available on the site, and as such, having a role in the customer decision making process from the information search stage to the selection of the webshop.
2. The quality of the exchange, comprising the circumstances under which the actual purchase and delivery, if applicable, is realised in the webshop concerned.

3. Perceived security standing for customers’ assessment of privacy and protection of their personal data during the purchase.

4. The evaluation of customer service, including the opportunities provided by the webshop for personal contact in an essentially impersonal shopping process and for addressing emerging questions and problems.

As we analysed perceptions of quality in the four e-commerce segments identified by Francis and White (2003) separately in our research, of the scales encountered in the literature, only those were appropriate for our purposes which take the specificities of these markets into account, including that e-services are purchased and consumed using an online customer account (e.g. e-banking) while in the case of offline-services, receipt of the voucher by e-mail and confirmations are an important aspect. The measurement model developed by Francis (2009) takes these aspects into consideration and allows for different measurement variables to be assigned to the dimensions in each category. Therefore, we have adopted this model for the measurement of electronic service quality in our empirical research.

To find answers to our research questions, we carried out a large-sample survey (1000 respondents) with an online questionnaire in the last three months, taking online customers as the survey population. By quota sampling, we divided the population into two, with one half consisting of respondents who have purchased offline goods or services and the other half of individuals who have purchased electronic goods or services. The survey offered answers for our main questions, however, due to the limitations it involved, namely that respondents rated different webshops and that first and repeat customers could not be distinguished, in order to validate the findings of our survey, we also conducted an experiment with 100 participants. In the experiment, we measured the quality perceptions, satisfaction as well as the repurchasing and WOM intentions of the participants with the aid of a fictive webshop and employed additional open-ended questions to be able to investigate the reasons behind the evaluations obtained. The experiment has become a popular research tool in the field of marketing in recent years (Baum – Spann, 2011).

3.1. Results of the large-sample survey

In our large-sample online survey we have assumed that for a complete evaluation of electronic service quality, customers had to have experience not only of the webshop and the actual purchase but also of customer service, and by doing so, to have information on the only personal element in an otherwise impersonal automated purchase process. In addition, they were also expected to state their opinion on the security features provided by the webshop. Parasuraman et al. (2005) propose that the quality of communication with customer service during the purchase cannot always be evaluated, as in general customers do not contact the company when no problems or questions occur. Our survey involved altogether 481 respondents who could not give a rating for some of the measurement variables linked to customer service and the majority of them lacked information in particular about the management of problems and questions. It was an interesting observation that a considerable part of respondents (416) had limited knowledge also regarding security. Most of these respondents could not express an opinion on guarantees provided for the security of bank card data (300) or privacy (200). In this group, there were dominantly respondents who had to rate the purchase of an offline product. Considering this, it may be a possible explanation for the missing data that they chose payment in person instead of online payment and made the purchase without registration. However, as this issue was not covered in our large-sample survey, it remains to identify the exploration of the underlying reasons for such limited information on security as an area for future research.
In the analysis, we tested the proposed model and hypotheses by structural modelling – a highly sensitive method in respect of missing data. As filling in averages for missing data (casewise method) resulted in significant changes in our model, we kept respondents having missing values separately, treated as a specific group. As a result, the model was tested in the following four groups:

1. respondents having with complete experience (N=377),
2. respondents lacking experience regarding customer service (N=207),
3. respondents lacking experience regarding security (N=142);
4. respondents lacking experience regarding both customer service and security (N=274).

In the dissertation, all four groups are characterised in detail in the discussion of our research results. However, in this summary we will present the results of only the first and the second group since we know that lacking experience regarding customer service issues from a problem-free purchase process while we do not have well-founded evidence for the reasons behind missing data for security.

### 3.2. Results of hypothesis testing

We tested the hypotheses formulated on the basis of the literature and our pilot research using PLS-SEM path analysis. To confirm if the proposed relationships existed and whether they are significant, we used the bootstrapping procedure under PLS-SEM (1000 samples) and the results of the t-test.

Our results revealed that in the case of offline-goods only the exchange, i.e. the ordering process and delivery, and in the case of respondents having complete experience, the evaluation of customer service has a significant positive effect on satisfaction. The impact of the perceived security of the webshop is not significant, and accordingly, it cannot be considered a central factor in the development of satisfaction in the purchase transaction at hand. The same applies to the quality of the actual physical webshop. On the basis of the foregoing, we rejected two of the proposed hypotheses (H1.1 and H1.3).

Two hypotheses (H1.1 and H1.2) were rejected also in the case of e-services where the exchange, i.e. easy manageability and operation of the created user account as well as its actual quality do not have a significant effect on satisfaction. In the case of respondents who had experience with customer service, it is a relevant positive factor whose effect, in fact, exceeds that of perceived security in this category. In cases when e-services were purchased, perceived security is another relevant factor that has a significant positive effect on satisfaction. Perceived security has a significant positive effect also in the case of e-goods but all the other hypotheses (H1.1, H1.2 and H1.4) were rejected.

**Offline-services** are the single category where there is a difference between the group of respondents having complete experience and those lacking experience regarding customer service. Only one hypothesis is retained in the case of both groups, but not the same. In the group having complete experience, also including contact with customer service, the dimension of exchange has a significant positive effect on satisfaction while those who did not have such ‘personal’ contact with customer service, perceived security has a significant impact.

On the whole, our results show that in the different e-retail segments not all the analysed dimensions of electronic service quality have a significant positive effect on the development of satisfaction. The results of our hypothesis testing carried out for confirmation of the proposed relationships are outlined in Table 2.
Table 2: Results of hypothesis testing for the group of respondents having complete experience based on the findings of the large-sample research, using PLS-SEM

Source: own elaboration based on the research results

The significant positive correlations between satisfaction and its consequences were confirmed with a single exception (the purchase of offline-services by respondents lacking experience regarding customer service), and thus, the corresponding hypotheses accepted.

We mapped differences in the relationship between satisfaction and its consequences across the four segments by MGA and identified significant differences based on the PLS-MGA probability indicator. We fully accept only one of the six hypotheses formulated as regards satisfaction and traditional WOM intention in the group of respondents having complete experience. This hypothesis (H5.3) proposes *a significantly weaker positive correlation between the two variables in the case of customers of e-services than in the case of customers of offline-goods*. As to the other hypotheses, the direction of the proposed correlation was confirmed but they did not prove significant. As a result, only the difference between the lowest and the highest value is relevant. *We found the same in respect of the relationship between satisfaction and electronic WOM intention.*

Of the hypotheses concerning satisfaction and repurchasing intention, two were accepted (H3.3 and H3.6), however, *the order of the correlations according to strength in the category of customers of e-goods and offline-services defied our expectations*: this relationship was found to be weaker in the case of e-goods and stronger in the case of offline-services. The results of our hypothesis testing regarding the differences between the segments are outlined in Table 3.

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Offline-goods</th>
<th>Offline-services</th>
<th>E-goods</th>
<th>E-services</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1.1: The dimension of actual webshop quality has a significant positive effect on satisfaction.</td>
<td>Rejected</td>
<td>Rejected</td>
<td>Rejected</td>
<td>Rejected</td>
</tr>
<tr>
<td>H1.2: The dimension of exchange has a significant positive effect on satisfaction.</td>
<td>Accepted</td>
<td>Accepted</td>
<td>Rejected</td>
<td>Rejected</td>
</tr>
<tr>
<td>H1.3: The dimension of perceived security has a significant positive effect on satisfaction.</td>
<td>Rejected</td>
<td>Rejected</td>
<td>Accepted</td>
<td>Accepted</td>
</tr>
<tr>
<td>H1.4: The dimension of customer service has a significant positive effect on satisfaction.</td>
<td>Accepted</td>
<td>Rejected</td>
<td>Rejected</td>
<td>Accepted</td>
</tr>
<tr>
<td>H2: Satisfaction has a positive effect on repurchasing intention in all e-commerce categories.</td>
<td>Accepted</td>
<td>Accepted</td>
<td>Accepted</td>
<td>Accepted</td>
</tr>
<tr>
<td>H4: Satisfaction has a positive effect on traditional WOM in all e-commerce categories.</td>
<td>Accepted</td>
<td>Accepted</td>
<td>Accepted</td>
<td>Accepted</td>
</tr>
<tr>
<td>H6: Satisfaction has a positive effect on electronic WOM in all e-commerce categories.</td>
<td>Accepted</td>
<td>Accepted</td>
<td>Accepted</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

Table 3: Results of hypothesis testing for the group of respondents having complete experience based on the findings of the large-sample research, using PLS-SEM

Source: own elaboration based on the research results

### H3: The effect of satisfaction on repurchasing intention differs significantly in the respective e-commerce categories.

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Partially accepted</th>
<th>Partially accepted</th>
</tr>
</thead>
<tbody>
<tr>
<td>H3.1: Satisfaction has a stronger positive effect on repurchasing intention in the category of offline-goods than in the category of e-goods.</td>
<td>Stronger but the difference is not significant</td>
<td>Stronger but the difference is not significant</td>
</tr>
<tr>
<td>H3.2: Satisfaction has a stronger positive effect on repurchasing intention in the category of offline-goods than in the category of offline-services.</td>
<td>Accepted</td>
<td>Accepted</td>
</tr>
<tr>
<td>H3.3: Satisfaction has a stronger positive effect on repurchasing intention in the category of offline-goods than in the category of e-services.</td>
<td>Rejected</td>
<td>Rejected</td>
</tr>
<tr>
<td>H3.4: Satisfaction has a stronger positive effect on repurchasing intention in the category of e-goods than in the category of offline-services.</td>
<td>Partially accepted</td>
<td>Stronger but the difference is not significant</td>
</tr>
<tr>
<td>H3.5: Satisfaction has a stronger positive effect on repurchasing intention in the category of e-goods than in the category of e-services.</td>
<td>Accepted</td>
<td>Accepted</td>
</tr>
<tr>
<td>H3.6: Satisfaction has a stronger positive effect on repurchasing intention in the category of offline-services than in the category of e-services.</td>
<td>Partially accepted</td>
<td>Stronger but the difference is not significant</td>
</tr>
</tbody>
</table>

1 The indicator shows a significant difference between the analysed variables if its value is less than 0.05 or greater than 0.95 (Sarstedt et al., 2011).
H5.1: Satisfaction has a stronger positive effect on traditional WOM in the category of offline-goods than in the category of e-goods.

H5.2: Satisfaction has a stronger positive effect on traditional WOM in the category of offline-goods than in the category of offline-services.

H5.3: Satisfaction has a stronger positive effect on traditional WOM in the category of offline-goods than in the category of e-services.

H5.4: Satisfaction has a stronger positive effect on traditional WOM in the category of e-goods than in the category of offline-services.

H5.5: Satisfaction has a stronger positive effect on traditional WOM in the category of e-goods than in the category of offline-goods.

H5.6: Satisfaction has a stronger positive effect on traditional WOM in the category of offline-goods than in the category of e-services.

H6.1: Satisfaction has a stronger positive effect on electronic WOM in the category of offline-goods than in the category of e-goods.

H6.2: Satisfaction has a stronger positive effect on electronic WOM in the category of offline-goods than in the category of offline-services.

H6.3: Satisfaction has a stronger positive effect on electronic WOM in the category of offline-goods than in the category of e-services.

H6.4: Satisfaction has a stronger positive effect on electronic WOM in the category of e-goods than in the category of offline-services.

H6.5: Satisfaction has a stronger positive effect on electronic WOM in the category of e-goods than in the category of offline-goods.

H6.6: Satisfaction has a stronger positive effect on electronic WOM in the category of offline-goods than in the category of e-services.

H7.1: Satisfaction has a stronger positive effect on electronic WOM in the category of offline-goods than in the category of e-goods.

H7.2: Satisfaction has a stronger positive effect on electronic WOM in the category of e-goods than in the category of offline-goods.

H7.3: Satisfaction has a stronger positive effect on electronic WOM in the category of offline-goods than in the category of offline-services.

H7.4: Satisfaction has a stronger positive effect on electronic WOM in the category of e-goods than in the category of offline-services.

H7.5: Satisfaction has a stronger positive effect on electronic WOM in the category of e-goods than in the category of offline-goods.

H7.6: Satisfaction has a stronger positive effect on electronic WOM in the category of offline-goods than in the category of e-services.

\[ \text{Table 3: Results of hypothesis testing for the group of respondents having complete experience based on the findings of the large-sample survey, using PLS-SEM and MGA} \]

Source: own elaboration based on the research results

Our hypotheses testing concerning the differences between the segments produced divergent results in the case of respondents lacking experience regarding customer service. The order predicted according to strength for the correlation between satisfaction and traditional WOM proved completely wrong as the effect was the most intense in the category of e-goods, followed by offline-services and offline-goods. Of the relevant hypotheses, the one proposing a significantly lower effect of satisfaction on traditional WOM in the e-services segment was accepted (H5.5) and only three other partially accepted (H5.3, H5.4, H5.6). None of the hypotheses on the remaining two relationships (satisfaction and e-WOM, satisfaction and repurchasing intention) could be fully kept and only two of them were partially accepted (H7.2, H7.4).

3.3. Results of the experiment

To arrive at a better understanding of the reasons behind customers’ evaluations and to validate the results presented above, we conducted an experiment designed for the offline-goods (clothing accessory) and the e-goods category (e-books), supplementing our large-sample survey.

On examination of the comments made on the completed purchases, we find that in the case of offline-goods simplicity and quickness of the purchase as well as wide selection are the most frequently mentioned of the altogether 58 different positive attributes. Negative attributes are in comparison more concentrated. Of the 37 different attributes counted in total slow delivery\(^2\), incorrect categorisation of the products hindering browsing and small selection occur the most frequently. In connection with electronic-goods purchases, we identified 45 different positive attributes. Of these, the most frequently mentioned one is again the fast pace and simplicity of the purchase process – which is one of the major advantages of online shopping. In this case, customers thought more approvingly of the structure of the

\(^2\) We stipulated a delivery time of 10 days for the purchase to be completed.
webshop as well, although we had made no changes in the design. Small selection, lack of information on the file format of the e-books available for download, compulsory registration⁴ and poor webshop design are invoked the most often as negative attributes.

The content of comments on offline product and online product purchases differ in terms of the negative attributes mentioned. While in the case of the purchased clothing accessory negative feedback mainly concerns delivery and webshop structure, in the case of e-books, the scope of the available information (format, review, size) is criticised more often. In the case of offline product purchases, in addition to customer service, exchange is found to be a significant variable from the point of view of satisfaction. The results of our large-sample survey and experiment overlap in this respect. The comments of participants underpin our assumption that the same webshop is assessed against different needs and expectations by potential customers when they purchase products belonging to a different category.

The comments were also analysed using quantitative tools. Based on the extracted results, there is a moderate positive correlation between the length of comments and the number of negative attributes, i.e. an increase in one of these variables predicts, ceteris paribus, an average increase in the other variable. This means in practice that a more negative experience is likely to lead to longer comments. A significant positive correlation is observable also between the number of positive attributes in the comments and the values recorded for average perceived quality, satisfaction, traditional WOM, e-WOM and repurchasing intention. An opposite trend can be observed in respect of the number of negative attributes. The differences between scenario A and B were also examined based on the data of the experiment. The comments exhibit a significant difference in terms of the attributes and descriptive characteristics mentioned in them only in the case of e-product purchases. Here, the average number of positive comments was significantly higher in the comments of scenario B, when an e-product was purchased first, compared to scenario A where it was the second product to be purchased.

To validate the findings of our large-sample survey, relying on PLS-SEM, we analysed the differences traceable within the proposed set of relationships, comparing offline and online product purchases. The added value of the results obtained in the experiment was that participants used and evaluated the same webshop, and as this was a fictive webshop completely unfamiliar to participants, a distinction could be made between first-time and repeat customers. When the data were pooled and no distinction was made between first and second purchases, the results resonated with those of our large-sample survey, i.e. no significant differences arose between the relationships of variables and the path coefficients between satisfaction and its consequences are higher in the case of offline-goods.

When first and repeat purchases were analysed separately, a number of differences occurred in the case of the large-sample survey. In the case of the second purchase, no significant differences were registered between customers of an offline product and customers of an offline product but the strength of the effect of variables varied. In particular, the effect of satisfaction on traditional WOM was greater in the case of offline product purchases while its impact on e-WOM and repurchasing intention was greater in the case of e-product purchases. By contrast, in the case of first-time customers, there is a significant difference between satisfaction and repurchasing intention as well as satisfaction and e-WOM. Both of the relevant path coefficients are significantly higher in the case of offline product purchases. Satisfaction also had a stronger influence on traditional WOM in the case of offline product purchases but the difference is not significant. These findings indicate that the strength of the examined relationships is influenced by the specific purchase transaction (first or second purchase) (Table 4).

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⁴ Customers could purchase the offline product also without registration, as made possible by most real-life webshops.
<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Large-sample survey</th>
<th>Experiment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>First purchase</td>
</tr>
<tr>
<td>H2: <strong>Satisfaction</strong> has a positive effect on <strong>repurchasing intention</strong> in all e-commerce categories.</td>
<td>Accepted</td>
<td>Accepted</td>
</tr>
<tr>
<td>H3: The effect of <strong>satisfaction</strong> on <strong>repurchasing intention</strong> differs significantly in the respective e-commerce categories.</td>
<td>Partially accepted</td>
<td>Accepted</td>
</tr>
<tr>
<td>H3.1: <strong>Satisfaction</strong> has a stronger positive effect on <strong>repurchasing intention</strong> in the category of offline-goods than in the category of e-goods.</td>
<td>Partially accepted</td>
<td>Accepted</td>
</tr>
<tr>
<td>H4: <strong>Satisfaction</strong> has a positive effect on <strong>traditional WOM</strong> in all e-commerce categories.</td>
<td>Accepted</td>
<td>Accepted</td>
</tr>
<tr>
<td>H5: <strong>Satisfaction</strong> has a positive effect on <strong>traditional WOM</strong> in all e-commerce categories.</td>
<td>Partially accepted</td>
<td>Partially accepted</td>
</tr>
<tr>
<td>H5.1: <strong>Satisfaction</strong> has a stronger positive effect on <strong>traditional WOM</strong> in the category of offline-goods than in the category of e-goods.</td>
<td>Partially accepted</td>
<td>Partially accepted</td>
</tr>
<tr>
<td>H6: <strong>Satisfaction</strong> has a positive effect on <strong>electronic WOM</strong> in all e-commerce categories.</td>
<td>Accepted</td>
<td>Accepted</td>
</tr>
<tr>
<td>H7: The effect of <strong>satisfaction</strong> on <strong>electronic WOM</strong> differs significantly in the respective e-commerce categories.</td>
<td>Partially accepted</td>
<td>Partially accepted</td>
</tr>
<tr>
<td>H7.1: <strong>Satisfaction</strong> has a stronger positive effect on <strong>electronic WOM</strong> in the category of offline-goods than in the category of e-goods.</td>
<td>Partially accepted</td>
<td>Partially accepted</td>
</tr>
</tbody>
</table>

**Table 4: Results of hypothesis testing – comparison of the experiment and the large-sample survey**

*Source: own elaboration based on the research results*

### 3.4. Theoretical and practical relevance of the research

In our research project, we undertook an investigation of electronic retail, as one of the most dynamic areas in the retail sector, within the framework of a marketing-oriented analysis. Although we have a wide knowledge of purchase processes and decisions in the ‘offline’ world, a growing body of evidence and expert opinions point to discernible differences specific to the Internet. Against this context, we set the aim to examine the familiar matrix of relationships between quality, satisfaction, repurchasing intention and WOM adapted to domestic e-retail and to contribute new findings to the theory by testing our proposed hypotheses. The direction of our research was further inspired by a thorough review of the literature, including the proposition that the analysed purchase processes should not be placed on the same footing – as done by earlier studies – but grouped into distinct e-commerce groups and examined in comparison with each other. In our research, we created such distinct groups on the basis of product type and mode of fulfilment, and in line with this categorisation, carried out a separate analysis of purchases of offline-goods and services and electronic-goods and services. Such separate analysis represents a new approach in the literature and the resulting findings can provide webshop designers and operators with several interesting insights. The identified differences should be given careful consideration also by operators of webshops that sell different types of products and services simultaneously. It is widely agreed that greater variety leads to greater satisfaction (Agárdi, 2004) but the divergent consumer expectations revealed should also be taken into account during planning.

This dissertation is the final piece in a series of studies on the measurement of online consumer satisfaction which has an extendedcope to incorporate WOM and repurchasing intentions in addition to e-service quality and satisfaction. On the basis of the different models reviewed, it can be stated that the measurement of online consumer satisfaction...
requires a novel approach which is mainly due to the specific features offered by the Internet as a channel, such as interactivity, personalization, a wide and easily accessible selection and the role of communities.

The scales created for the measurement of e-service quality can be used with benefit by businesses to gain deeper knowledge of consumer expectations and needs and thus to draw up a more successful and competitive business strategy. It should be highlighted that – as the theories presented in this dissertation suggest – perceived webshop quality does not exclusively originate in the quality of the interactions at, and the structure and usability of, the website but is also the product of pre- and post-purchase activities such as word of mouth, brand identity, delivery and complaint management, which also contribute significantly to customers’ quality perceptions. This demands complex strategic thinking of business experts which involves coordination of several different internal and external business units, including marketing, IT, logistics, finance, delivery partners and call-centres. By exploring the quality perceptions of consumers and indirectly the level of customer satisfaction, businesses can further improve their online activity and make customers loyal in the long term which in turn contributes to the success of the business.

Businesses wanting to enhance satisfaction relating to their webshop should first consider the dimensions which were found relevant in our research as the improvement of the quality perceptions linked to these dimensions bring about a more marked positive change in satisfaction and – through satisfaction – also in traditional and electronic word of mouth and repurchasing intentions. Our results demonstrate that the effect of the analysed e-service quality dimensions differ across the four e-commerce categories. The influence of the actual physical webshop on satisfaction did not prove relevant in either of the categories. A probable reason for this is that a sophisticated webshop design has come to be a basic customer requirement. It is other factors such as the exchange, payment as well as availability of, and communication with, customer service that assume major importance in the respective segments. At the same time, these factors have a varying effect and relevance. The process of order placement and delivery is relevant in the case of offline-goods and services, i.e. in cases when the purchase could be realised in an offline environment as well. It is no great surprise that in the case of e-goods and e-services security has a relevant positive effect on satisfaction, considering the fact that the whole process and often even the consumption of the products take place online which imparts increased significance to the security of personal data and gives rise to an increased impact on satisfaction as well. It is obvious that perceived security of the webshop plays a greater role in cases when we cannot hold the purchased product or services physically in our hands. The dimension of customer service is relevant in the case of offline-goods and e-services.

As to our primary group of interest involving respondents with a complete purchase experience, it can be stated that their WOM intentions were higher in general. Of offline and online modes of delivery, it was again offline delivery which attracted more favourable assessment in all cases. At the same time, a significant difference was only observable between the lowest and the highest value (offline-goods and e-services, respectively). By contrast, the path coefficient between satisfaction and repurchasing intention was higher in the offline categories which at the same time means that the level of satisfaction was less decisive for repurchasing intention in the case of online products/services. However, in some cases, we got different results for the above relationships among first-time and repeat customers. These differences were explored in greater detail in our experiment. The results of the experiment imply that predictions of customer behaviour should reckon also with the previous history of customers with the webshop.

It is not only our hypothesis testing that adds new knowledge to theory as the methodology used also reflects an up-to-date approach: to validate and further improve the results of our large-sample survey we carried out an experiment which has become an widely-used research tool in marketing in recent years (Baum – Spann, 2011).
3.5. Limitations and areas for future research

In this Ph.D. dissertation we have presented the findings of a large-sample survey involving 1000 respondents and an experiment carried out with undergraduates. The experiment was designed with the objective to eliminate the limitations of our large-sample survey in which respondents rated different websites and could not be distinguished based on previous shopping experience. As a result of the experiment, several differences were revealed which, however, should be validated in a further large-sample survey with respondents evaluating specific purchase transactions using the same webshop. In addition, we had limited possibilities in the experiment for simulation of the activities necessary for payment. As a further limitation, the present research project was quantitative in nature, making use of statistical methods to elaborate on the problem while quantitative methods appeared in it only tangentially. For a more profound, qualitative understanding of the reasons for the identified differences, additional exploratory interviews would be needed.

In our research, we have analysed the market of offline-goods, e-goods, offline-services and e-services separately and this model revealed a number of differences indeed. On this basis, it would be instructive to carry out further studies examining the development of the currently analysed set of relationships in groups defined according to different criteria, for instance according to price (high and low-value purchases), different sub-groups of customers (convenience or information-seeking customers) or involvement. As another area for future research, we would like to mention possibilities for the extension of the models outlined in our studies to other types of websites (e.g. information-only or brand building websites). Industry-specific analyses of the topic (e.g. banks or tourism enterprises) would also be illuminating. An investigation into the reasons behind lack of information on security together with the effect of this void on customer expectations and evaluations is also of interest.
4. Main works of reference


Wolfinbarger, M., Gilly, M.C., 2002. comQ: Dimensionalizing, measuring and predicting quality of the e-tailing experience. CRITO - Center for research on information technology and organization, 1 – 42.

5. List of proprietary (and co-authored) publications in the dissertation topic

Hungarian academic volumes, chapters in academic volumes

Hungarian peer-reviewed journals

Other journals

Other Hungarian publications
Participation at conferences with publication of the full paper submitted

Hungarian teaching material

Hungarian workshop papers

Other foreign language publications
Participation at foreign language conferences with publication of the full paper submitted