

Online Purchasing of Simple Retail Goods: The Impact of e-Service Quality as Provided by Electronic Commerce Functionalities

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Abstract

This paper explores the impact of e-service quality, Web site information quality and Web site quality on customer satisfaction with the purchasing process as it relates to product life cycle. Two variables are proposed to assess e-service quality: e-commerce (EC) functionalities available on the Web site and the confirmation of the customer's expectations of those EC functionalities. The proposed research model is tested with data collected from 111 purchasing experiences involving simple goods. Analysis of the results shows that customer satisfaction is positively impacted by each of its determinants. In turn, customer intent to repurchase on the Web site is positively influenced by customer satisfaction. Moreover, this paper highlights several implications that could help B2C Web sites improve their e-service quality.

1. Introduction

Academics and practitioners alike recognize the importance of service quality for Web transactions. Indeed, the service quality offered by a B2C Web site has been associated with online success and performance [3, 28, 34]. It has also been identified as an important driver of customer satisfaction, differentiation and competitive advantage [30, 36, 38].

e-Service quality can be defined as the extent to which a Web site facilitates efficient and effective shopping, purchasing, and delivery of products and services [51]. Studies in e-service quality have shown that consumers expect e-retailers to operate their Web sites efficiently and effectively [8, 15]. They require that B2C Web sites adequately perform the following tasks: providing information on the products available, facilitating transactions, fast delivery of purchased products and direct after-sales services [10]. In order to satisfy these needs, and consequently establish customer value,

e-retailers have no choice but to provide a wide array of service benefits to all customers who shop on their Web sites [26].

Although research on the quality of service delivered through the Web is still in its early stages, several conceptualizations have already been proposed (see Zeithaml et al. [51] for a review of service quality on the Web). Three conclusions can be drawn from the conceptualizations available to date: (1) e-Service quality is a multidimensional context-dependent concept that often includes such aspects as access and responsiveness, information and content, ease of use, privacy/security, customization and delivery. Consequently, there is no consensus on how to operationalize the concept and calls for further development have been made [51]. (2) Numerous conceptualizations of e-service quality are simply adaptations of dimensions stemming from the use of traditional information systems (see Rowley [39] for a review of the literature on e-service). These conceptualizations do not take into account the wide range of possibilities offered by Web technologies. Finally, (3) most conceptualizations are centered solely on the interaction between shoppers and the Web site during purchasing. Therefore, they do not consider pre- and post-service interactions, which are viewed as important components of the whole shopping process [10, 36]. For example, the following e-service dimensions are generally ignored: educating customers about product features, helping customers integrate the product with the other resources they use, helping customers to upgrade their products and helping consumers to transfer or dispose of their products.

To expand our knowledge of e-service quality, some authors have also identified how IT technologies can be used on a Web site to foster outstanding service during the customer-service life cycle [24, 36]. Following this research stream, the first objective of this study is to propose a new conceptualization of e-service quality as provided by EC functionalities on Web sites to support customers' purchasing process. The concept of EC

functionalities to support the customer-service life cycle has already been used by Saeed et al. [40] to demonstrate the relationship between e-commerce competence, customer value and firm performance. The second objective of this study is to measure the influence of this conceptualization of e-service quality on *customer satisfaction* and to compare this influence to those exercised by *Web site information quality* and *Web site quality* when purchasing simple retail goods.

The remainder of the paper is organized as follows. First, the research model, the relevant theoretical background, and the hypotheses are presented. An explanation of the research methodology follows. Research results are then presented and discussed. The paper concludes with the research limitations and the prospects for future research.

2. Theoretical background and research hypotheses

2.1 Research model

The research model focuses on the customer online purchasing process as it relates to product life cycle. It posits that, along with *Web site information quality* and *Web site quality*, e-service quality positively influences *customer satisfaction with the purchasing experience* which, in turn, influences *intent to repurchase on the same Web site* (see Figure 1). Two variables are used to assess e-service quality. The first, *EC functionalities available on the Web site*, captures the number of functionalities available on the B2C Web site to support the customer’s online purchasing process. The second, *confirmation of the customer’s expectations of EC functionalities used*, captures the extent to which the EC functionalities used on the B2C Web site at each stage of the purchasing process fulfilled the customer’s expectations. The research hypotheses concerning the relationships between these six variables are presented below.

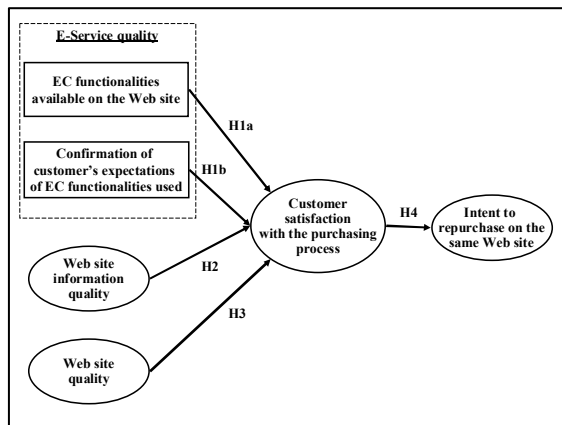


Figure 1. The research model

2.2 EC functionalities as antecedents of customer satisfaction

The concept of EC functionalities was introduced in the information systems literature by Zhu and Kraemer [52]. This concept is anchored in the dynamic capabilities perspective (DCP), an extension of the resource-based view (RBV). Zhu and Kraemer define EC functionalities in relation to a firm’s ability to use the Internet to improve service to customers by sharing information, facilitating transactions, improving customer services and strengthening supplier relations. EC functionalities may be more or less sophisticated and can range from static information presentation to online order tracking.

The Customer-Service Life Cycle (CSLC) framework, proposed by Ives and Learmonth [24], is a useful tool to identify the EC functionalities available on a B2C Web site to support the e-retailer’s service offerings. Indeed, the CSLC model breaks down retailer-customer relationships into four phases, namely requirements, acquisition, ownership and retirement, and demonstrates how IT can be used to support customers’ needs and create a competitive advantage for the firm [36]. More specifically, the four phases represent what a consumer goes through during the purchasing process. The four phases of the model are subdivided into 12 stages: (1) establish requirements and specify product attributes in the requirement phase; (2) select a source, order, authorize and pay for, acquire, test and accept the product in the acquisition phase; (3) integrate and maintain the product in the ownership phase; and (4) transfer or dispose of, account for and repurchase the product in the retirement phase. Using the CSLC framework to identify EC functionalities provides more granularity than traditional models such as the five-stage process decision model [13]. Indeed, using the CSLC, Saeed et al. [40] identified more than 50 EC functionalities that support customer service during online shopping.

Several Web site attributes identified in the literature can be categorized as EC functionalities. Examples include product selection, shipping and handling [2], numerous payment options, confirmation of items ordered [10], and ordering a product [35]. According to Bansal et al. [2], Collier and Bienstock [10], and Park and Kim [35], Web site attributes are antecedents of online customer satisfaction. Online customer satisfaction, a key construct in online shopping studies, is often defined as an affective state representing an emotional reaction to a shopping experience [22, 45, 46, 49].

Furthermore, Saeed et al. [40] state that, by providing EC functionalities at each stage of the CSLC, B2C Web sites can enhance customers’ online shopping experiences. They also demonstrate that the presence of

certain EC functionalities on Web sites can boost e-retailers' performance.

Synthesizing the above findings, we propose our first hypothesis:

H1a: The provision of EC functionalities to support the purchasing process positively influences customer satisfaction.

As posited in Figure 1, the provision of EC functionalities is not the only factor influencing online customer satisfaction. Expectation-Confirmation Theory – a theory widely used in the consumer behavior literature – states that confirmation of expectations following use is an antecedent of satisfaction. According to Spreng et al. [45], feelings of satisfaction arise when consumers compare their perceptions of a product's performance to their expectations. Expectation-Confirmation Theory has also been used in several studies to explain customer satisfaction in online environments. McKinney et al. [30] found that information quality expectation and information quality disconfirmation are antecedents to Web information quality, and site quality expectation and site quality disconfirmation are antecedents to site quality satisfaction. According to Bhattacharjee [6], online banking users' satisfaction is influenced by the confirmation of their expectations from prior IS use. Hsu et al. [23] also demonstrated a positive relationship between Web users' level of prior perceived confirmation and their level of satisfaction with prior use of the Web. Therefore, we propose:

H1b: Confirmation of the customer's expectations of EC functionalities used to support the purchasing process positively influences customer satisfaction.

2.3 Web site information quality and Web site quality as antecedents of customer satisfaction

Web site information quality and Web site quality have also been identified in the online shopping literature as two key determinants of online customer satisfaction [28, 30, 38].

Since there is no direct communication between the customer and the seller in online environments, the quality of the information provided on a Web site becomes a key asset in supporting customers' purchasing process. In the traditional information systems literature, information quality is captured through dimensions such as timeliness, accuracy, meaningfulness, convenience and entertainment [11, 42]. In order to take into account the particularities of the Web, online shopping studies have extended and adapted the concept to include components

such as price information, and flexible and customized information [28, 32].

The quality of a Web site is also a key asset in supporting customers' purchasing process. In the traditional information systems literature, system quality captures the engineering performance of an information system through such dimensions as ease of access, interaction, and navigation. Online shopping studies have also adapted and extended the concept to take into account the particularities of the Web. Various conceptualizations of Web site quality have since been proposed but no consensus has emerged [14].

Hsu [22] found a significant relationship between information quality and customer satisfaction as well as between Web site quality and customer satisfaction. In their study of the moderating effect of online experience on customer satisfaction, Rodgers et al. [38], found that perceived information quality and perceived Web site quality influence online satisfaction for low-experience shoppers. Taking these findings into account, we propose the following two hypotheses tied to the customer online purchasing process:

H2: Web site information quality positively influences customer satisfaction.

H3: Web site quality positively influences customer satisfaction.

2.4 Customer satisfaction as an antecedent of intent to repurchase on the Web site

Customer satisfaction is a driver of several consumer behaviors such as brand loyalty, customer retention, and repeat purchases [7, 16]. Recent online shopping studies, in both information systems and marketing, have also found that overall Web satisfaction affects customer retention (likelihood to repurchase), referral (likelihood to recommend), online purchasing, and stickiness (ability to get consumers to return to the site and stay on the site once they get there) and e-loyalty [2, 37].

Thus, we propose our last hypothesis concerning the customer online purchasing process:

H4: Customer satisfaction positively influences intent to repurchase on the same Web site.

3. Research method

3.1. Data collection

Data was collected by means of a field survey. The participants were students at the École des Sciences de la Gestion of the Université du Québec à Montréal – a

business administration school in the province of Quebec, Canada. Students were considered to be appropriate surrogates for real-world online shopping since they have most of the attributes of the expected population [18, 48].

A research assistant visited several undergraduate and graduate classes to solicit students' participation randomly. None of the participants in the survey were enrolled in classes taught by the authors of this paper.

Only subjects who had purchased a product through an e-retailer's Web site less than two months ago were recruited. This selection criterion was essential as the study's aim was to assess participants' most recent online buying experience and not their overall past experience with shopping on the Web, as is the case in most studies of customer online behavior [27, 47]. Also, to minimize recall bias, respondents were urged to revisit the Web site in question and re-enact their purchasing process before completing the questionnaire.

As in previous studies, we limited our population to subjects who bought simple products such as books, CDs and DVDs [9, 12, 14]. This decision was reinforced by the fact that lead online buyers consulted during the study confirmed that the EC functionalities are generally independent of the type of simple product purchased.

A total of 125 questionnaires were collected. Eight were removed due to incomplete data. Six others were also removed as they concerned the purchase of complex products. No significant differences (tests of proportions) were found between the characteristics of respondents from the different classes. T-tests also showed no significant differences between the classes with regard to subjects' assessment of the six research variables.

3.2. Research variables

To assess *EC functionalities available on the Web site*, an index value was developed based on the presence or absence of a set of 47 EC functionalities that can enhance customer service during the online purchasing process. This operationalization was adapted from Saeed et al.'s [40] work. The index represents the root-square of the sum of the EC functionalities available on a Web site to support the customer's purchasing process. The root-square of the sum permits one to normalize the variable, and to have comparable scales for all variables of the structural model.

Three focus group sessions were conducted with lead online buyers to identify the selected 47 EC functionalities, which apply at the first six stages and the last stage of the CSLC framework (see Appendix A). The present study does not examine the EC functionalities supporting stages 7 to 11, as it focuses on the purchase of simple products for which post-delivery activities are often absent.

The *confirmation of the customer's expectations of EC functionalities used* construct was adapted from Spreng et al.'s [45]. Seven questions were asked to assess the extent to which, on a seven-point Likert scale where 1 = "not at all" and 7 = "to a great extent," the EC functionalities used at each of the first six stages and the last stage of the CSLC fulfilled customers' expectations.

We adopted Hsu's [22] construct, adapted from McKinney et al.'s [30] earlier work, to assess Web site information quality. The five items of Hsu et al.'s [23] construct, again adapted from McKinney et al.'s [30], were also used to assess Web site quality. McKinney et al.'s [30] construct was adapted to assess customers' satisfaction [26]. Finally, intent to repurchase on the Web site was assessed by adapting Hsu et al.'s [23] construct.

3.3. Descriptive statistics

Seventy percent of participants were aged between 20 and 29 years and 65% were male. Thirty-six percent were full-time students while the rest were part-time students also active in the labor market. Forty-eight percent of the participants considered themselves to have good or excellent IT knowledge. Sixty-nine percent of the participants started buying products online between 1 and 5 years ago. Forty percent of them purchased five or more products online last year.

Sixty-five percent of the participants mentioned that they had already purchased a product on the Web site visited during their last purchasing episode, while 59% percent said they knew exactly what product to buy before beginning their last online buying episode.

During their last online shopping episode, 35% of the participants purchased tickets (e.g., plane, hotel or concert), 20% purchased CDs or DVDs, 18% purchased books and 12% purchased clothing.

Table 1 shows that confirmation of the customer's expectations of the EC functionalities used, Web site information quality, Web site quality and customer satisfaction were considered favorable, with means of 5.49, 5.87, 5.47 and 5.48, respectively. Overall, participants also said they would repurchase products on the same Web site (mean = 5.19). On average, e-retailers' Web sites provided 21 EC functionalities to enhance customer service.

Table 1. Descriptive statistics

Construct	Mean	Standard deviation
EC functionalities available on the Web site	4.54	0.68
Confirmation of the customer's expectations of EC functionalities used	5.49	0.83
Web site information quality	5.87	0.89
Web site quality	5.47	0.94
Customer satisfaction with the purchasing process	5.48	1.11
Intent to repurchase on the same Web site	5.19	1.36

4. Data analysis and results

The data was analyzed using a two-stage methodology [20]. As a first step, because of the limited sample size, two measurement models were developed. The first comprised the first three constructs – Web site information quality, Web site quality and confirmation of the customer's expectations of the EC functionalities used – while the second comprised the last two constructs – customer satisfaction and intent to repurchase on the Web site.

Next (stage 2), the full structural equation model was developed. Due to the limited sample size, LISREL's (version 8.12a) path analysis model for directly observed variables (i.e., submodel 2) was used to test the research hypotheses. This multivariate regression technique considers the model as a system of equations and estimates all the structural coefficients directly [25]. Thus, each variable included in the LISREL model was equal to the mean of the construct's items.

4.1. Measurement model

The five constructs – Web site information quality, Web site quality, confirmation of the customer's expectations of EC functionalities used, customer satisfaction with the purchasing process and intent to repurchase on the same Web site – were subject to two confirmatory factor analyses (CFA) using LISREL for Windows v8.12a. The validity of the constructs was assessed in terms of unidimensionality, convergent validity, internal consistency and discriminant validity.

Unidimensionality refers to the existence of one latent trait or construct underlying a set of indicators [20], and convergent validity examines the magnitude of the correlation between item measures of a construct [17]. The models' fit indices (Table 2) provide adequate evidence of the unidimensionality and convergent validity of the items.

The probability values associated with the chi-square statistic show that both models reproduce the observed

correlation matrix. The normed chi-square statistic value (the ratio of chi-square to the degrees of freedom) for both models is also within the acceptable range of 1–3. The AGFI (Adjusted Global Fit Index), GFI (Global Fit Index), Bentler Bonett, Comparative Fit Index (CFI) and Incremental Fit Index (IFI) are all above their criterion levels for both models. Finally, the RMSEA (Root Mean Square Error of Approximation) is below its criterion level in both models. Table 3 shows that standardized CFA loadings for all scale items in both models are above or very close to the recommended threshold of 0.707 [21, 43]. This also provides evidence of convergent validity.

Table 2. Goodness of fit indices for the measurement model

Statistics	Threshold guidelines	Source	Observed value	
			Model 1	Model 2
χ^2	$p \geq .05$	[1]	88.8 with df=76, p=.708	11.05 with df=10; p=.354
Normed χ^2	Between 1.0 and 3.0	[19]	1.16	1.15
AGFI	Above 0.80	[44]	0.87	0.93
GFI	Above 0.90	[44]	0.91	0.98
Bentler Bonett	Above 0.90	[4]	0.91	0.99
CFI	Above 0.90	[4]	1.00	1.00
IFI	Above 0.90	[5]	1.00	1.00
RMSEA	Below 0.1	[29]	0.000	0.031

The internal consistency of each construct is assessed by computing the Cronbach's alpha, composite reliability, and Average Variance Extracted (AVE) [21]. Table 4 shows that all Cronbach's alpha and composite reliabilities on both models exceed the 0.70 threshold [33], while the AVE of each construct exceeds the variance attributable to its measurement error (i.e., 0.50) [21].

Discriminant validity is defined as the degree of uniqueness achieved from item measures in defining a latent construct [17]. The constructs are distinct since the correlations between all pairs of variables were below the 0.8 threshold proposed by Venkatraman [50] (see Table 6). To further assess discriminant validity, McKnight et al. [31] suggest using a constrained analysis method, which involves setting the correlations between each pair of variables at unity (1.0) and running the models again. Discriminant validity between a pair of constructs is established if the chi-square of the unconstrained model is significantly lower than the chi-square of the constrained model. Table 5 shows strong evidence of discriminant validity.

Table 3. Item loadings

Construct items	Standardized loading ¹
Model 1	
Web site information quality	
Accurate information	0.81
Reliable information	0.69
Easy-to-read information	0.83
Understandable information	0.77
Useful information	0.70
Web site quality	
Easy to navigate on the Web site	0.65
Helpful links on the Web site	0.67
Quick downloads of texts and graphics on the Web site	0.73
Interactivity on the Web site	0.75
Well-organized Web site	0.89
Model 2	
Confirmation of the customer's expectations of EC functionalities used	
Stage 1: Establish requirements	0.67
Stage 2: Specify	0.69
Stage 3: Select a source	0.79
Stage 4: Order	0.73
Stage 5: Authorize and pay for	0.72
Stage 6: Acquire	0.68
Stage 12: Repurchase	0.69
Customer satisfaction with the purchasing process	
Satisfied with the online buying experience	0.98
Pleased with the online buying experience	0.94
Content with the online buying experience	0.92
Delighted with the online buying experience	0.78
Intent to repurchase on the same Web site	
Intent to continue to purchase products on the Web site	0.90
Continue to purchase products on the Web site	1.00
Regularly purchase products on the Web site	0.68

¹All loadings are significant at $p < .001$

Table 4. Internal consistency

Construct	No. of items	Cronbach alpha	Internal consistency	AVE
Web site information quality	5	0.89	0.87	0.58
Web site quality	4	0.75	0.86	0.55
Conf. of the customer's expect. of EC funct. used	7	0.83	0.88	0.51
Customer satisfaction with the purchasing process	4	0.95	0.95	0.82
Intent to repurchase on the same Web site	3	0.88	0.90	0.76

Table 5. Assessment of discriminant validity

Construct	Constrained model	Unconstrained model	$\Delta \chi^2$
	χ^2 (df)	χ^2 (df)	
Web site information quality			
Web site quality	50.32(24)	22.53(23)	27.79
Conf. of the customer's expect. of EC funct. used	92.33(40)	40.73(39)	51.60
Customer satisfaction with the purchasing process	109.50(23)	28.95(22)	80.55
Intent to repurchase on the same Web site	115.10(17)	25.77(16)	89.33
Web site quality			
Conf. of the customer's expect. of EC funct. used	65.51(30)	24.85(29)	40.66
Customer satisfaction with the purchasing process	78.56(17)	21.58(16)	56.98
Intent to repurchase on the same Web site	87.52(14)	16.59(13)	70.93
Confirmation of the customer's expectations of EC functionalities used			
Customer satisfaction with the purchasing process	150.92(31)	49.87(30)	101.05
Intent to repurchase on the same Web site	151.24(25)	25.70(24)	125.54
Customer satisfaction			
Intent to repurchase on the same Web site	195.59(11)	11.82(10)	183.77

Note: All $\Delta \chi^2$ are significant at $p < .001$

4.2. Structural model

The significance and strength of hypothesized effects in the structural model were also analyzed using LISREL for Windows v8.12a. Figure 2 summarizes the results.

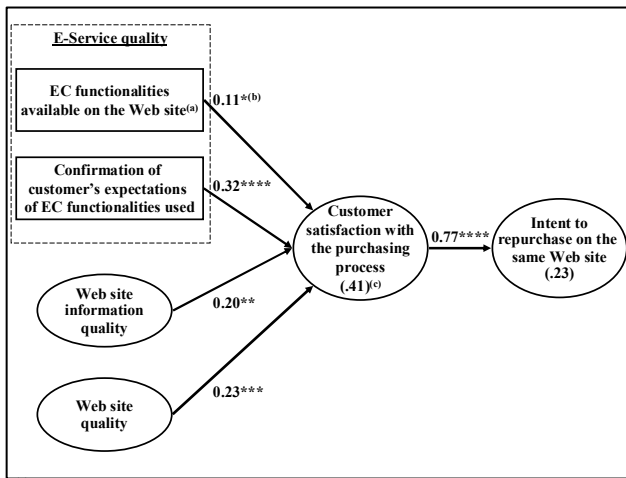
Hypotheses 1a and 1b tested respectively whether EC functionalities available on the Web site to support the purchasing process as it relates to product life cycle and the confirmation of the customer's expectations of the EC functionalities used positively influence customer satisfaction with the purchasing process. These two hypotheses are confirmed.

Hypotheses 2 and 3 tested whether Web site information quality and Web site quality positively affect customer satisfaction. These two hypotheses are also confirmed. The results also show that EC functionalities available on the Web site, confirmation of the customer's

Table 6. Intercorrelations between constructs

Construct	(1)	(2)	(3)	(4)	(5)	(6)
(1) EC functionalities available	1.00					
(2) Confirmation of the customer's expectations of EC functionalities used	-0.25***	1.00				
(3) Web site information quality	-0.03	0.50****	1.00			
(4) Web site quality	0.13*	0.42****	0.52****	1.00		
(5) Customer satisfaction with the purchasing process	0.07	0.52****	0.52****	0.49****	1.00	
(6) Intent to repurchase on the same Web site	0.11	0.30****	0.41****	0.50****	0.53****	1.00

p = level of two-tailed significance based on a chi-square distribution
 * p < .10, ** p < .05, *** p < .01, **** p < .001



(a) Square root of the sum of functionalities
 (b) Coefficients of estimation and level of significance, where * p < 0.1, ** p < .05, *** p < .01, **** p < .001
 (c) R² values of dependent constructs

Figure 2. The estimated model

expectations of the EC functionalities used, Web site process information quality and Web site quality explain 41% of the variance in customer satisfaction with the purchasing

Hypothesis 4 tested whether customer satisfaction with the purchasing process positively affects intent to repurchase on the same Web site. This fourth hypothesis is also confirmed. The results also show that customer satisfaction explains 23% of the variance in intent to repurchase on the Web site.

5. Discussion

This research proposed two variables to assess e-service quality: EC functionalities available on the Web site during the purchasing process and the confirmation of the customer's expectations of the EC functionalities used. Our results indicate that both of these variables influence customer satisfaction. These findings indicate

that, by providing a wide variety of EC functionalities to support the various stages of the CSLC, e-retailers are more likely to increase customer satisfaction. Our results also support Santos' [41] suggestion that the importance, and not merely the presence, of certain attributes of e-service needs to be taken into account.

Our findings also show that confirmation of the customer's expectations of the EC functionalities used is the most important driver of customer satisfaction, followed by Web site quality and Web site information quality. Finally, our research results corroborate previous studies that have demonstrated that customer satisfaction influences intent to repurchase [2, 23].

Three research contributions can be derived from this study. First, this research is the first to introduce the concept of EC functionalities as a surrogate for e-service quality when shopping online. Second, it highlights the importance of considering e-service quality not only as an overall evaluation of specific dimensions such as tangibility, reliability, responsiveness, assurance and empathy, but as an overall online customer purchasing process. In addition, this study demonstrates that the fulfillment of expectations regarding EC functionalities, and not merely the presence of certain EC functionalities, drives customer satisfaction.

Three managerial implications also stem from our research. First, this study reiterates the importance for e-retailers of developing and maintaining an efficient Web site with great service features in order to attract and retain customers. It also provides specific information on how e-retailers can provide service quality on their Web sites. Indeed, e-retailers can improve the quality of their service by providing critical EC functionalities to support each phase of the customer purchasing process. Finally, we hope our study will encourage e-retailers to regularly assess the quality of their service offering by asking their customers to identify and evaluate the importance of the EC functionalities they value most.

6. Limitations and future research

There are seven specific limitations on this study. First, the research model was tested with data collected from a relatively small sample, which evidently limits the scope and generalizability of our results. Second, because of the sample size constraint, constructs were operationalized with a limited number of items (3 to 5), which may somewhat reduce their reliability. Third, our limited sample size prevented us from testing the moderating effect of variables such as customer experience with the Web site and knowledge of the product on the paths of our research model. Fourth, we did not consider the full set of possible determinants of customer satisfaction and intent to repurchase on the Web site. Indeed, previous studies have shown that individual and environment factors as well as participants' involvement with the product during the buying episode affected internal responses and behaviors [2, 38, 45]. Fifth, focus group participants were not asked to prioritize EC functionalities. Consequently, each one was given equal weight in the research model even though different customers have different opinions about which EC functionalities provide the highest value. Sixth, the EC functionalities considered in this study were only those that are independent of the type of simple product purchased. As such, a handful of functionalities tied to specific product categories (e.g., sample songs or videos for CDs and DVDs and virtual models for clothing) were omitted. Seventh, since the research was cross-sectorial in nature, the findings may be biased by a common method variance.

There are numerous future research avenues. First, the two research variables proposed in this research as surrogates for e-service quality should be improved and extensively pilot-tested. Second, assessing the importance of the different functionalities for different product categories could also lead to interesting findings. Third, the research model should be tested with purchases of complex goods. Evidently, this initiative will require us to take into account EC functionalities that support all stages of the CSLC. Fourth, the research model could be tested by taking into account other classification schemes, such as hedonic versus utilitarian. Fifth, the research model should also be extended to include other key antecedents of online customer satisfaction and repurchase intention (e.g., engagement with product, engagement with interface, computer efficacy, computer anxiety, the quality of the product/service the customer has purchased and brand effects). Moreover, it could well be interesting to test the moderating effect of variables such as customer experience on the Web site and whether or not the customer knew beforehand exactly what product to purchase on the paths of the research model for both simple and complex goods. Assessing the importance of

the different functionalities for different product categories could also lead to interesting findings. Finally, our conceptual model could be adapted to the B2B context in order to better understand how, through the provision of critical EC functionalities, firms' e-service quality can enhance the satisfaction of their business counterparts.

7. References

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Appendix A: EC functionalities supporting e-service quality according to lead online purchasers (in alphabetical order)

Stage 1. Establish requirements: New product list; Personalized Web page; Recommendations (by related subjects); Recommendations (customers who bought this product also bought); Recommendations (top sellers); Reviews and ratings from critics; Reviews and ratings from other customers; Search engine; Site menu; Special offers.

Stage 2. Specify: Additional product information from the retailer (by chat, e-mail, FAQ and/or forum); Additional product information from the retailer (by phone); Additional product information from other consumers (by chat, e-mail and/or forum); Hyperlink to experts/specialists on the product; Picture of the product; Product comparison function (e.g., product characteristics); Product customization function.

Stage 3. Select a source: Buy new or used product; Consult tax information according to the retailer's location; Lowest price or price match guarantee; Price comparison function; Price watch function; Reviews and ratings on previous transactions conducted on the Web site from other customers; Store locator function; View total price in a currency of your choice.

Stage 4. Order: Order confirmation function; Order processing function (by phone); Order processing function (from a traditional catalogue); Order processing function (through the Web site); Quick order/fast checkout function; Shopping cart function; Verify order status; Wish-list.

Stage 5. Authorize and pay for: Currency converter function/View price in various currencies; Gift cards/certificates/rebates; Membership card (with or without an associated credit card); Payment confirmation; Various payment options (e.g., credit card, PayPal, debit card).

Stage 6. Acquire: Customer pick-up order at the retailer's or a partner's store; Digital product download function; Estimated time of delivery; Free shipping; Order status/Tracking function; Shipment notification e-mail function.

Stage 12. Repurchase: Easy repurchase function; Notification to repurchase product; Rebates to repurchase the product.