Antecedents and consequences of online customer satisfaction: A holistic process perspective

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ABSTRACT

This paper examines the determinants and consequences of online customer satisfaction by considering the entire online shopping experience, based on data collected from our survey of UK consumers in 2016. We found evidence that post online purchase experiences including experiences with order fulfilment, ease of return and responsiveness of customer service are the most significant contributors to online customer satisfaction. Security assurance, customisation, ease of use, product information and ease of check-out, all have significant impact but at much lower levels. The effect of website appearance on customer satisfaction is not significant. Our findings show that online customer satisfaction leads to repurchase intention, and a likelihood of making positive recommendations to others, but not willingness to pay more. We also found the effects of product information, customisation, order fulfilment and responsiveness of customer service on customer satisfaction are stronger for experience products than search products, while there is no significant difference in the effects of other determinants for search products and experience products. Several theoretical and managerial implications are provided, based on our findings.

1. Introduction

Research exploring what constitutes the online customer experience is an important area of internet marketing research that requires further exploration (Trueman et al., 2012). The internet continues to revolutionise the retailing market. During 2015 online sales in Europe have grown by 18.4% and by 13.8% in the U.S (Centre for Retail Research, 2015). Despite the growth in sales in the online retail industry, individual online retailers continue to face severe challenges. They need to create a shopping experience that is as dynamic, exciting, and as emotionally rewarding as shoppers can get from bricks-and-mortar stores as these retailers offer online sales coupled with offline customer service. The multi-channel retailing context gives rise to more transparent information about price and product, empowering consumers to switch to better options. Competing online retailers reside only a few mouse clicks away, so consumers are able to compare competing offers with minimal investments of personal time or effort. The result is fierce price competition and customer loyalty to an e-retailing brand is difficult to obtain. This means it is important to understand consumer online shopping experiences, in order to cultivate customer loyalty.

Most of the existing research investigating factors influencing online customer experience focuses on the elements associated with customers' activities in pre-purchase and purchase stages such as features of the retailing website, this includes website design and performance, information quality, ease of use and security, Turban et al. (2000), Srinivasan et al. (2002), Park and Kim (2003), Perea y Monsuwé et al. (2004), and Rose et al. (2012). Research has not taken account of the customers' total purchasing experience and failed to pay sufficient attention to the post purchase stage. Only Rao et al. (2011) considered the impact of order fulfilment and Griffis et al. (2012) looked at the effect of return management on online customer satisfaction.

The research examining customer satisfaction in relation to all stages of online shopping process is limited. Liu et al. (2008) and Thirumalai and Sinha (2011) are the only two we found attempting to incorporate various elements belonging to the entire online shopping process, but their studies omit the important element in post online purchase stage, that is customer's experience of product return. The recent empirical results given by Griffis et al. (2012) demonstrate that the returns in online retailing significantly influence repurchase behaviour.

From a management perspective, in order to develop an understanding of customer online shopping experiences, it is preferable to have an instrument that covers all the dimensions of total online shopping experience. If only one component of the total retailing

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experience is considered at a time, it might be detrimental to our understanding of customers' shopping experience and this in turn could lead to strategies that either overemphasise some factors and under appreciate the importance of others (Liu et al., 2008).

This study seeks to expand our knowledge of consumer online shopping experience, and identify the most important factors from the entire online shopping process that influence customer satisfaction. Our paper will fill a gap in research by considering pre-purchase, purchase and post-purchase experience simultaneously. We make several contributions to the e-retailing literature by developing and testing a new model of antecedents and outcomes of the consumer satisfaction with the entire online shopping process not currently found in the literature. We also offer significant managerial implications on which downstream activities e-retailers should focus on more in order to enhance customer satisfaction and lead to customer loyalty.

2. Theoretical background and hypothesis

Customer satisfaction refers to the customer's overall evaluation of the product or service after he/she purchases it (Choi et al., 2013). Customer satisfaction is the consequence of the customer's experiences during the buying process (Kotler, 1997a,b) and plays a crucial role in directly affecting customers' future behaviour. Berman and Evans (1998) define customer purchase experience as all the elements that encourage or inhibit a consumer during his contact with a retailer. Recent literature on e-retailing has provided several concepts of online shopping experience (OSE). Novak et al. (2000, p. 22) define OSE as the "cognitive state experienced during navigation". Rose et al. (2012, p. 309) call it online customer experience and define it as 'a psychological state, manifested as a subjective response to the e-retailers website'. Trevinal and Stenger (2014, p.324) use the term online shopping experience and state that it is 'a complex, holistic and subjective process resulting from interactions between consumers, shopping practices (including tools and routines) and the online environment (e.g. shopping websites, online consumer reviews, and social media)'. Mallapragada et al. (2016) conceptualise a typical online purchase experience as involving multiple web page visits, through which the consumer evaluates the gathered information, before making a purchase.

The drawback of these definitions is that they only focus on customer's online interactions and omit possible interactions between e-shoppers and the e-retailers in an offline environment in pre and post purchase stage, such as interactions between a customer and an e-retailer in physical store when she collects or returns product bought online to the e-retailer's physical store. Our study extends their work by the inclusion of customers' experience in entire shopping process. Traditional marketing literature views consumer buying process as a sequence of several stages (Nicosia's, 1966; Engel et al., 1968; Howard and Sheth, 1969; Kotler, 1997a,b; Blackwell et al., 2003; Hawkins et al., 2003): (1) need recognition, (2) information search, (3) alternative evaluation, (4) purchase, and (5) post-purchase behaviour. In an online setting, Chircu and Mahajan (2006) conceptualise the online retail transaction as a sequence of steps, including store access, search, evaluation and selection, ordering, payment, order fulfilment, and post-sales service. The concept offered by Chircu and Mahajan (2006) is helpful for keeping track of specific activities in online shopping process but viewing online process as a sequence of specific activities is so static that does not capture the dynamic and fast changing elements in online environment. For example, a customer after ordering may bump into a pop-up showing better option then decide to cancel the recent order and buy the latter option. So, online shopping process does not always follow the sequence of activities defined by Chircu and Mahajan (2006). Some specific activities can occur simultaneously, for example, online customers' information searching on online retail store webpage is often conducted in conjunction with their evaluation and selection. Therefore, Chircu and Mahajan's (2006) concept hinders the

generic and dynamic view of online shopping process. Klaus' (2013) dynamic model of online customer experience overcomes limitation of the one defined by Chircu and Mahajan (2006). Klaus (2013: 449) identifies online purchasing process with three key stages including prior, during and after purchase. The prior purchase stage includes such activities as information searching and evaluation of the information. The purchase stage consists of such activities as product selection, ordering and payment. The after purchase stage involve activities such as evaluation of outcome.

With the aim to develop a holistic view of total online shopping experience, we try to avoid omissions of any possible elements which customers may experience during their online shopping process. We, therefore, adopt Klaus's (2013: 449) model and define online shopping experience as a holistic set of customer experiences resulting from her/his interactions with object/s on or agent/s from the e-retailing website in their shopping process from pre-purchase, purchase to post purchase stage.

Our concept captures the synergistic nature of online purchases by taking account of the key factors throughout the whole purchasing process. Some activities can simultaneously occur online, some are sequential online activities and others are conducted offline. For example, a customer's desire for a product arose from its display in one retailer's physical store, they then went online to buy the product from another retailer offering better price. Our concept captures this dynamic phenomenon of multichannel shopping activities.

2.1. Pre-purchase stage and customer satisfaction

At this stage, an online customer often conducts a set of activities including searching product information, comparing different alternatives, checking customer review in order to make the best buying decision. Prior studies suggest that various features of the retailing website including website performance/ease of use, website appearance, information quality, and customisation compose customer experience in pre-purchase stage and have positive influence on customer satisfaction with e-retailers (see review of antecedent variables of customer satisfaction in Srinivasan et al., 2002; Liu et al., 2008 and Rose et al., 2012).

2.1.1. Product information

Information provided by online stores support customers in making purchase decision. In-depth and comprehensive information enables customer to predict the quality and utility of a product (Wolfinbarger and Gilly, 2003). Up-to-date, relevant, sufficient and easy to understand information helps customers to make a good choice (Wang and Strong, 1996). The depth of product information on a web site was found to influence the customers' perception of shopping convenience. E-retailers with in-depth product information enjoy more positive customer satisfaction, and such an effect is higher than those with shallow product information (Jiang and Rosenbloom, 2005). More extensive and higher quality information available on the retailing website leads to higher level of customer satisfaction (Peterson et al., 1997). Therefore, we propose that:

H1a. High quality product information has a positive impact on customer satisfaction

2.1.2. Ease of use

Ease of use refers to system layout, navigation sequence, and convenience to search for a product or information. It is similar to the concept of "convenience" introduced in Srinivasan et al. (2002) and Rose et al. (2012) or "user interface" used by Szymanski and Hise (2000). One of main reasons for consumers to shop online is convenience (UPS, 2012). A poor performing retailing websites does not meet consumers' expectation for convenience, so customers are certainly not satisfied with their time shopping on that website. Lohse and Spiller

(1998) found evidence of the effects of different layouts, organisation, browsing and navigation features on users' satisfaction. The website which is easy to use will make customers happy when shopping from the website. We therefore propose that:

H1b. Ease of use has a positive impact on customer satisfaction

2.1.3. Website appearance

In a traditional retail context, aesthetic cues such as store layout, colour scheme, lighting, music, and odour influence customer buying decisions (Kotler, 1973). Eroglu et al. (2003) proposed that the online store environment influences consumers' emotional and cognitive states, which then result in various shopping outcomes. McKinney (2004, p. 269) suggested that aesthetic features of a website including colour, graphics, layout, and design are stimuli for enjoyment, purchase and satisfaction. Rose et al. (2012) found the evidence that web aesthetics provide sensory stimuli supporting the formation of experience impressions. We, thus, propose the following hypothesis:

H1c. Website appearance has a positive impact on customer satisfaction

2.1.4. Customisation

Customisation is the tailoring of products to the individual needs and preferences of customers (Thirumalai and Sinha, 2011). The significance of providing product information relevant to customers has been highlighted in the extant research (e.g., Häubl and Trifts, 2000; Shapiro and Varian, 1999; Srinivasan et al., 2002, Rose et al., 2012).

Customisation increases the probability that customers will find something that they wish to buy without having to spend time on searching from thousands of products on the online market. This lowers the search costs of customers and improves the overall quality of their purchase decisions (Häubl and Trifts, 2000). These advantages of customisation make it appealing for customers to visit the site again in the future. In addition, by providing interactive decision tools and information that is relevant to customers, customisation enable customers to complete their transactions more efficiently (Srinivasan et al., 2002)

Overall, tailoring the online purchase process to the customer's circumstance and preference enable retailers to signal high quality, overcome some of the inherent customer-interface limitations of the internet and better meet customer expectations, thus delivering greater satisfaction to customers. Based on the above arguments, we propose that

H1d. Customisation has a positive impact on customer satisfaction

2.2. Purchase stage and customer satisfaction

This stage involves completing the online order. It involves shoppers conducting such activities as choice of payment and delivery methods, filling in payment details and order confirmation when checking out.

2.2.1. Ease of checkout

Inefficient and troublesome procedures when checking out the online order will annoy online shoppers and could put them off from attempting to get the order through. It is estimated that, on average, online shoppers only wait for eight seconds for system feedback before deciding to end their shopping (Dellaert and Kahn, 1999). In an industry survey of more than 3000 U.S. online shoppers in 2012, UPS (2012) found that 83% of the surveyed sample said that the ease of checkout influences on their satisfaction. Therefore, it will raise the customer's degree of satisfaction if the checkout stage is straightforward and the transaction can be completed quickly. Based on the above argument, we propose that

H2a. Ease of checkout has a positive impact on customer satisfaction

2.2.2. Security assurance

At the purchase stage, online shoppers have to reveal their personal and payment details. Undoubtedly, consumers may curtail their purchasing behaviour when confronted with unfavourable media reports of data breach from a retailing website. In addition to data breaches, consumers may be concerned about phishing websites, identity theft, and credit-card theft when making an online purchase (Cozzarin and Dimitrov, 2016). Prior research indicates that when perception of security risk from a retailing website decreases, satisfaction with purchasing from the e-retail is likely to increase (Szymanski and Hise, 2000). We, hence, hypothesise that

H2b. Security assurance has a positive impact on customer satisfaction

2.3. Post-purchase stage and customer satisfaction

At post online purchase stage, customer experience such services provided by e-retailers as product delivery, customer service, and product return. Post purchase experience is critical part of online consumer experience because only until this stage, online customers can examine product. Traditional marketing literature suggests that post-purchase evaluation influences customers' future behaviours (Kotler, 1997a,b).

2.3.1. Order fulfilment

Order fulfilment has been defined as the ability to perform the promised service dependably and accurately (Stank et al., 1999, 2003). More specifically, order fulfilment refers to a firm's ability to deliver the right amount of the right product at the right place at the right time in the right condition at the right price with the right information (Coyle et al., 1992; Davis-Sramek et al., 2008; Stock and Lambert, 2001). Some research has found evidence that customer satisfaction has been connected to order fulfilment (Davis-Sramek et al., 2008; Rao et al., 2011). Poor order fulfilment holds the potential to evoke a customer negative reaction. This has been observed in the service failure research where it has been seen that positive and negative outcomes relate distinctly to satisfying and dissatisfying experiences (Rao et al., 2011). Based on these evidences, we propose that:

H3a. High quality of order fulfilment has a positive impact on customer satisfaction

2.3.2. Responsiveness of customer service

Responsiveness refers to supplier's prompt response to customer request. It is one element among five dimensions of service quality influencing on the overall customer perception or evaluation of experience of the online marketplace (Santos, 2003). Several studies have indicated that there is a strong relationship between customer satisfaction and service quality of which responsiveness is an important dimension (Devaraj and Kohli, 2002; Gounaris et al., 2010). The most common types of customer reviews on websites are about their responsiveness or irresponsiveness of online sellers. Again, in the industry survey of more than 3000 U.S. online shoppers, UPS (2012) found that 61% of the sample said that responsiveness of customer service is important factor. The more timely an e-retailer responds to customer requests/complaints, the better the customer feels about the firm. This positive experience will enhance customer satisfaction. Based on these arguments, we propose that

H3b. Responsiveness of customer service has a positive impact on customer satisfaction

2.3.3. Ease of return

Product return is more important in online retailing than offline retailing given that consumers often do not have the opportunity to see the product physically before purchase (Griffis et al., 2012).

Procedural justice theory which refers to the fairness of policies and processes employed in pursuit of organisational outcomes has been extensively applied in the marketing literature to understand how consumers respond to service recovery events like the returns process (Homburg and Furst, 2005; Maxham and Netemeyer, 2002; Smith and Bolton, 2002; Tax et al., 1998). Maxham and Netemeyer (2002), in assessing customer reactions to service recovery efforts, show that procedural justice has a strong influence on customers' overall satisfaction. Smith and Bolton (2002) found that customer perceptions of procedural justice are important in influencing their overall view of organisations. Literature suggests that when customers perceive the service recovery effort by the firm to be high, any negative opinions of the firm are diminished considerably (Oliver, 1997; Oliver and Swan, 1989). Several other studies in the customer satisfaction literature also find that the level of service recovery has a strong positive impact on customer perceptions (Kelley and Davis, 1993; McCollough et al., 2000).

In an industry survey, UPS (2012) found 63% of customers surveyed said that they looked for the returns policy prior to making a purchase and 62% of online shoppers have returned a product purchased online. Having an easy returns policy will enhance the customer experience. An automatic refund is also very important in ensuring a good returns experience (UPS, 2012). Based on these evidences, we propose that

H3c. Ease of Return has a positive impact on customer satisfaction

2.4. Outcomes of customer satisfaction

Customer satisfaction is a critical factor to generate customer loyalty. According to Zeithaml et al. (1996), loyal customers forge bonds with the company. Customer loyalty impacts behavioural outcomes such as repurchase intention, positive word-of-mouth and willingness to pay more. Several studies have found evidence for a positive relationship between customer satisfaction and repurchase intentions (Rose et al., 2012 and Kuo et al., 2009, Seiders et al., 2005, and Yi and La, 2004; Srinivasan et al., 2002). Based on this evidence, we propose that

H4. Customer satisfaction will be positively associated with re-purchase intentions.

When customers are unsatisfied with a purchase, they are likely to provide negative comments. Satisfied customers are more likely to provide positive word-of-mouth (Dick and Basu, 1994; Hagel and Armstrong, 1997). Srinivasan et al., 2002 found the evidence for positive word of mouth as consequence of a customer satisfaction with the purchase. Based on this evidence, we propose that

H5. Customer satisfaction positively influence word of mouth

Research by Reichheld and Sasser (1990) reveals that loyal customers have low price elasticities and they are willing to pay a premium to continue buying from their preferred retailers rather than incur additional search costs. According to Sambandam and Lord (1995), loyalty to a business reduces the amount of effort expended in searching for alternatives while increasing the individual's willingness to purchase from that e-business in the future. Srinivasan et al. (2002) found the evidence for the fact that a loyal customer is willing to pay more for the product. Customers will not become loyal if they are not happy with their purchases and/or retailers. Customer satisfaction is an essential condition for customer loyalty or willingness to pay more. Based on this argument, we propose that

H6. Customer satisfaction positively influence willingness to pay more

2.5. Moderating effect of product type

All goods/services can be placed on a continuum ranging from easy to difficult to evaluate. Their location on the continuum, which depends on the level of information asymmetry, marks them as search, experience, or credence products (Darby and Karni, 1973). According to Nelson (1974), search goods are defined as those characterised by product attributes where complete information about the goods can be acquired prior to purchase; experience goods are characterised by experience attributes that cannot be known until the purchase and after use of the product. Search goods such as electronic products are associated with a higher degree of standardisation so are easily evaluated before purchase (Hsieh et al., 2005). Products such as books, vacations, telecommunication, or restaurants rely on experience attributes because their intangible nature precludes customers from evaluating their quality until they are purchased and consumed. Experience products are associated with low level of standardisation. Credence products such as legal services, financial investments, and education are difficult to assess, even after purchase and use (Brown et al., 2003). They are associated with lowest level of standardisation. Past studies provide evidence attesting to the notion that the characteristics of the product may affect consumers' behaviours in purchasing process (Alba et al., 1997; Aspinwall, 1962). Maute and Forrester (1991) suggest search and experience qualities as moderators of the link between search antecedents and outcomes. In an online retailing context, Hsieh et al. (2005) found that the effects of a number of stimuli on customer loyalty are different across product categories. Similarly, Park and Lee (2009) found the relationship between website reputation and the online word of mouth is moderated by product type. By extending the literature to the study of the antecedents and outcomes of online customer experience, this study proposes that product types moderate the relationships between online purchasing experience and customer satisfaction as well as the relationships between customer satisfaction and its outcomes. For example, in pre-purchase stage, it is easier to search information of highly standardised product is than to do so for a product with low level of standardization, so customers buying different product types will have different level of reaction to website features and performance. Similarly, in post-online purchase stage, it is easier to evaluate quality of highly standardised product than a product with low level of standardisation, so customer reactions to e-retailers' services in post purchase stage are more likely different across the product categories. Specifically, we hypothesise that

H7$_{1a}$. A product type moderates the effect of product information on customer satisfaction

H7$_{1b}$. A product type moderates the effect of ease of use on customer satisfaction

H7$_{1c}$. A product type moderates the effect of website appearance on customer satisfaction

H7$_{1d}$. A product type moderates the effect of customisation on customer satisfaction

H7$_{2a}$. A product type moderates the effect of ease of checkout on customer satisfaction

H7$_{2b}$. A product type moderates the effect of security assurance on customer satisfaction

H7$_{3a}$. A product type moderates the effect of order fulfilment on customer satisfaction

H7$_{3b}$. A product type moderates the effect of customer service on customer satisfaction

H7$_{3c}$. A product type moderates the effect ease of return on customer satisfaction

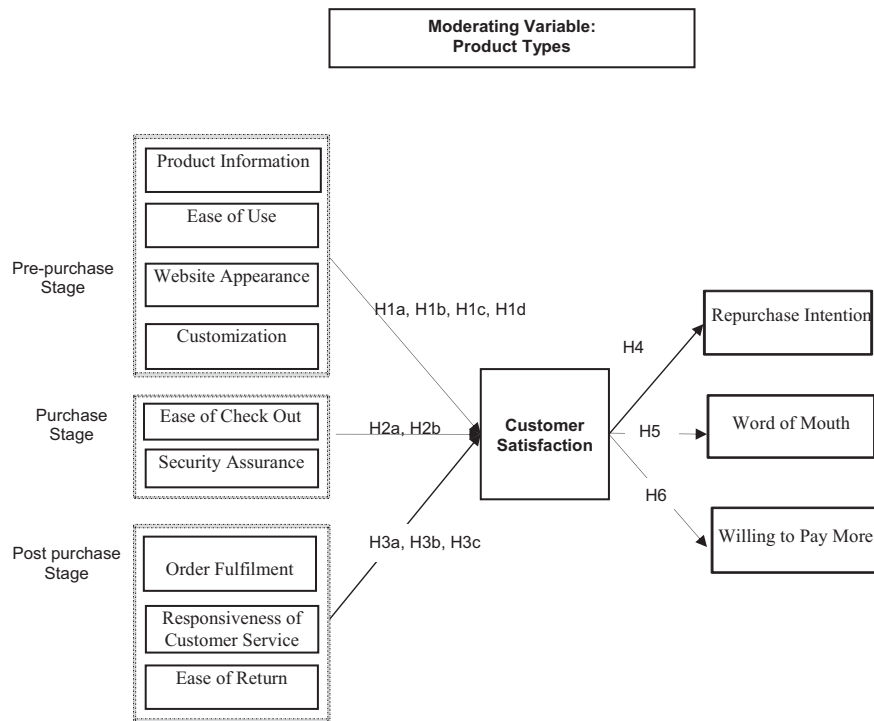**H7$_4$.** A product type moderates the effect of customer satisfaction on

Fig. 1. Antecedences and outcomes of customer satisfaction.

repurchase intention

H7₅. A product type moderates the effect of customer satisfaction on word of mouth

H7₆. A product type moderates the effect of customer satisfaction on willingness to pay more (Fig. 1)

3. Methods

3.1. Measurements

Measurements for our variables including Product Information, Ease of Use, Customisation, Website Appearance, Ease of Checkout, Security Assurance, Order fulfilment, Responsiveness of Customer Service, Ease of Return, Customer Satisfaction, Repurchase Intention, Word of Mouth, Willingness to Pay More were developed based on extant literature (see the Appendix A for more details) and revised upon the feedback obtained from our focus group study of 20 post graduate students doing a business management course at one university in the UK. All items are measured with (0–10) Likert scale where '1' means 'strongly disagree' and '10' means 'strongly agree'. We asked respondents to think of their last online transactions and rate the statements about their experience with the retailing website in our questionnaire.

Product type was a categorical variable. We classified product types based on the approach used by Hsieh et al. (2005) and Krishnan and Hartline (2001). The items bought online by our research sample were electronics, household products, fashion, books and hotel accommodation. According to Hsieh et al. (2005) and Krishnan and Hartline (2001), electronics, household products and fashion are classified as search goods/services and books, hotels are experience goods/services. It is worth noting that no credence products (i.e. health foods, legal services, real estate agencies, and insurance listed as credence goods in Hsieh et al., 2005) emerged in our research sample, only two product groups including search and experience product appeared.

Three control variables were used in the study: a) age b) gender, c) income measured in terms of category variables. All the measurements are presented in the Appendix A.

3.2. The sample

The online survey using Googledoc was launched in December 2015 and January 2016. The sampling frame consisted of online shoppers, located in the UK, identified from a mix of online social groups and professional databases via group-based electronic notification. The UK was chosen for an empirical study because of the size and the growth rate of e-retailing market. Data from Centre for Retail Research (2015) shows that UK's e-retailing market is the biggest in Europe and ranks second in the world only after the US. After cleansing, a total of 600 usable questionnaires were obtained. In order to check for non-response bias, we followed the procedure described by Armstrong and Overton (1977) whereby early and late respondents were compared. The results suggest that no significant differences were found among the groups, leading us to conclude that non-response bias does not appear a problem in this study.

3.2.1. Final sample descriptive

Sample profile is presented in Table 1.

4. Results

4.1. Measurement model

To assess multicollinearity, collinearity statistics were conducted among each pair of independent variables. The descriptive statistics and the correlation matrix appear in Table 2. The VIF values ranged from 1.75 to 2.41 and the tolerance values ranged from 0.55 to 0.71. This would suggest that multicollinearity does not appear to be an issue associated with the independent variables used in this study (Hair et al., 2005).

To provide an assessment of the overall validity of our measurement model, we examined the possibility of common methods bias by following Podsakoff et al. (2003) and employed two tests i.e. Harman's one-factor test and confirmatory factor analysis. Firstly, all the variables were entered into an exploratory factor analysis and no single factor emerged, nor did it account for the majority of the variance. As a result,

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Table 1
Sample profile.

Demographic		Percent of sample
Gender	Male	42
	Female	58
Age	18–24	6
	25–35	27
	36–45	18
	46–55	21
	56–65	22
	65 +	6
Frequency of online shopping	Every week	40.5
	Every month	43.8
	Several times a year	14.9
	once in a while	0.8
	Never shop online	0
Product bought	Search product	75
	Experience product	35
Shopping tendency	Multi-channel for the best value	45.1
	Shop online any chance possible	37.7
	Shop at local stores any chance possible	17.2

we conclude that no general factor is apparent. Secondly, a confirmatory factor analysis model was run whereby all the variables were allocated to one factor. In examining the model fit, the analysis revealed that the single-factor model did not fit the data well (χ^2 = 3098, DF = 1075, p = 0.000, CFI = 0.50, and RMSEA = 0.14). The results suggest that common bias does not appear to be a problem in our research and is unlikely to confound the interpretations of our results.

To assess the validity and reliability of our measurement model, we performed a confirmatory factor analyses (CFA) in which each item was restricted to load only on its a priori specified factor and were allowed to correlate with one another. We refined the measurement model by taking out the indicators with factor loadings lower than 0.6 and then re-ran the CFA. A summary of the results i.e. the average variance extracted and the construct reliabilities of the final measurement model are shown in Table 3. The overall fitness indices suggest a good fit for the measurement model. All the fitness index (χ^2 = 2227.60; DF = 725; p < 0.01; CFI = 0.96, NFI = 0.95, TLI = 0.96, and RMSEA = 0.068) satisfied the good fit thresholds recommended by Hair et al. (2005) and Hooper et al. (2008). χ^2/DF = 2227.60/725 = 2.90 is below cut-off 3. The goodness of fit index CFI, NFI, TLI were higher than the recommended satisfactory level of 0.9 whereas the root mean square error of approximation was lower than 0.08.

Each item significantly loaded on its respective construct (p < 0.001) with ranges from 0.642 to 0.958. Each construct had composite reliability (ranging from 0.70 to 0.90) not lower than the

Table 3
CFA results for all constructs.

Constructs	Items	Factor loading	Average variance extracted (above 0.6)	Composite reliability (above 0.5)
Product information (PI)	PI4	0.884	0.79	0.82
	PI3	0.842		
	PI2	0.906		
	PI1	0.832		
Ease of use (EU)	EU3	0.950	0.85	0.83
	EU2	0.882		
	EU1	0.833		
Website appearance (WA)	WA4	0.878	0.88	0.87
	WA3	0.913		
	WA1	0.873		
Customization (C)	C4	0.756	0.74	0.72
	C2	0.642		
Security assurance (SA)	SA4	0.721	0.72	0.78
	SA3	0.791		
	SA2	0.890		
	SA1	0.790		
Ease of check out (EC)	EC1	0.907	0.74	0.72
	EC2	0.927		
	EC3	0.895		
Responsiveness of customer service (RCS)	RCS1	0.805	0.91	0.90
	RCS2	0.779		
	RCS3	0.758		
Order fulfilment (OF)	OF1	0.803	0.79	0.81
	OF3	0.828		
	OF4	0.869		
	OF5	0.849		
Ease of return (ER)	ER4	0.903	0.82	0.78
	ER3	0.865		
	ER2	0.817		
	ER1	0.776		
Customer satisfaction (CS)	CS1	0.886	0.88	0.92
	CS2	0.939		
	CS3	0.789		
	CS4	0.864		
Repurchase intention (RI)	RI1	0.794	0.93	0.90
	RI2	0.778		
	RI3	0.848		
	RI4	0.902		
Worth of mouth (WM)	WM1	0.933	0.81	0.83
	WM2	0.962		
Willingness to pay more (WMP)	WPM2	0.728	0.78	0.70
	WPM3	0.722		

(χ^2 = 2227.60; DF = 725; p < 0.01; CFI = 0.96, NFI = 0.95, TLI = 0.96, and RMSEA = 0.068).

usual 0.70 benchmark (Hair et al., 2005). Convergent validity was considered satisfactory as the standardized loading for each of the items and the average variance extracted (AVE) both exceeded the 0.5 threshold recommended by Hair et al. (2005). Discriminant validity

Table 2
Correlation matrix, measures and for constructs.

Variables	Mean	PI	EU	SA	C	WA	OF	ER	EC	CS	RI	WM	WMP	RCS
Product information (PI)	7.331	1												
Ease of use (EU)	7.447	0.837	1											
Security assurance (SA)	7.606	0.767	0.752	1										
Customization (C)	6.0745	0.809	0.653	0.502	1									
Website appearance (WA)	7.293	0.724	0.758	0.678	0.684	1								
Order fulfilment (OF)	7.904	0.692	0.678	0.735	0.597	0.671	1							
Ease of Return (ER)	6.850	0.530	0.528	0.612	0.421	0.461	0.718	1						
Ease of check out (EC)	8.206	0.771	0.792	0.746	0.635	0.763	0.804	0.613	1					
Customer satisfaction (CS)	7.703	0.765	0.757	0.757	0.587	0.720	0.923	0.812	0.882	1				
Repurchase intention (RI)	6.913	0.590	0.637	0.576	0.589	0.587	0.727	0.674	0.613	0.778	1			
Word of mouth (WM)	2.553	0.557	0.595	0.570	0.572	0.571	0.709	0.599	0.579	0.750	0.891	1		
Willingness to pay more (WPM)	4.623	0.316	0.228	0.331	0.381	0.226	0.376	0.384	0.163	0.409	0.510	0.475	1	
Responsiveness of customer service (RCS)	6.231	0.588	0.507	0.544	0.753	0.441	0.521	0.637	0.514	0.637	0.683	0.617	0.461	1

was also evident as the squared correlation among the constructs was less than their individual AVE (Fornell and Larcker, 1981).

4.2. Structural model

We tested our hypothesis of structural causal relationships using maximum likelihood estimation method. All the fitness index ($\chi^2 = 2256.289$, DF = 807, p < 0.01; CFI = 0.96, NFI = 0.95, TLI = 0.95, and RMSEA = 0.072) satisfied the good fit thresholds recommended by Hair et al. (2005). χ^2/DF (2256.289/807) = 2.79 is below cut-off 3. The goodness of fit index CFI, NFI, TLI were higher than the recommended satisfactory level of 0.9 whereas the root mean square error of approximation was lower than 0.08.

Within the model, the positive impacts of three dimensions in pre-purchase experience namely Product Information (p = 0.016 < 0.05), Ease of Use (p = 0.01 < 0.05), Customisation (p = 0.01 < 0.05); the two dimensions in purchase experience including Ease of Checkout (p < 0.01), Security Assurance (p = 0.001 < 0.05) and three dimensions in post purchase stage including Order Fulfilment (p < 0.01), Responsiveness of Customer Service (p < 0.01) and Product Return (p < 0.01) on online Customer Satisfaction have been confirmed. Hypothesis H1a, H1b, H1d, H2a, H2b, H3a, H3b, H3c are accepted. Meanwhile the positive effect of Website appearance (p = 0.121 > 0.05) on Customer Satisfaction are not statistically significant. Hypothesis H1c is not confirmed.

The empirical results also support for positives outcomes of Customer Satisfaction on Repurchase Intention (p < 0.01), Word of Mouth (p < 0.01) but not for Willingness to Pay More (p = 0.061 > 0.05). Hypothesis, H4, H5 are accepted while H6 has to be rejected (Table 4).

4.3. Multi-group analysis

To test the moderating effects of product type, we used multi-group analysis method in AMOS 16. We created two sub-samples of search and experience product groups. Following Byrne (2016) and Arbuckle (2012, p363-384), we conducted analysis of three models: Measurement weights (assuming that factor loadings are constant across groups); Measurement intercepts (assuming that factor loadings and intercepts are constant across groups) and Structural weights (assuming that factor loadings, intercepts in the equations and the regression weight for predicting variables are constant across groups). The measurement weight model is accepted (p = 0.044 < 0.05). This suggests that the measurement model is correct across product groups. However, both Measurement intercept and Structural weight model have p = 1.00 > 0.05, so the assumption that intercepts and the regression weight for predicting variables are constant across groups has to be rejected (Table 5).

Table 4
The regression path coefficient and its significance of the sample.

Hypothesis				Path coefficient	P	Result
H1a (+)	PI	→	CS	0.135	0.016	Supported
H1b (+)	EU	→	CS	0.146	0.010	Supported
H1c (+)	WA	→	CS	0.087	0.121	Not Supported
H1d (+)	C	→	CS	0.186	0.010	Supported
H2a (+)	EC	→	CS	0.122	***	Supported
H2b (+)	SA	→	CS	0.188	0.001	Supported
H3a (+)	OF	→	CS	0.641	***	Supported
H3b (+)	RCS	→	CS	0.261	***	Supported
H3c (+)	ER	→	CS	0.414	***	Supported
H4 (+)	CS	→	RI	0.657	***	Supported
H5 (+)	CS	→	WM	0.607	***	Supported
H6 (+)	CS	→	WPM	0.275	0.061	Not supported

($\chi^2 = 2256.289$; DF = 807, p < 0.01; CFI = 0.96, NFI = 0.95, TLI = 0.95, and RMSEA = 0.072).

Table 5
Multi-group analysis model comparison.

Model	DF	P
Measurement weights	116	0.044
Measurement intercepts	284	1.000
Structural weights	332	1.000

To further investigate the moderating effect of product type on the specific relationships, we run constrained and unconstrained model for each path and compare Chi-Square difference with the critical statistic value. The moderation is significant when the difference in Chi-Square value between the constrained and unconstrained model is higher than the value of Chi-Square with 1 degree of Freedom, which is 3.84 at significant level of 0.05 (Byrne, 2016). The results of chi-square difference test and the path coefficient for the search and experience products are presented on Table 6.

As shown in Table 6, a moderating effect of product type is statistically significant on the relationship between product information and customer satisfaction ($\Delta\chi^2 = 18.843$, $\Delta DF = 1$, p < 0.05), between customisation and customer satisfaction ($\Delta\chi^2 = 4.234$, $\Delta DF = 1$, p < 0.05), between order fulfilment and customer satisfaction ($\Delta\chi^2 = 14.284$, $\Delta DF = 1$, p < 0.05), between responsiveness of customer service and customer satisfaction ($\Delta\chi^2 = 10.654$, $\Delta DF = 1$, p < 0.05). Hypothesis H71a, H71d, H73a, H73b are accepted. The moderating effects of product type on the other relationships were not confirmed ($\Delta\chi^2 < 3.84$, $\Delta DF = 1$, p > 0.05). Hypothesis H71b, H71c, H72a, H72b, H73c, H74, H75, H76 are rejected.

5. Discussion and conclusion

Overall, our results indicate that online customer satisfaction is made of positive experiences in three online shopping stages. Similar to extant research, we found that the features of web shop including Product Information, Ease of Use, Customisation, Ease of Check Out, and Security Assurance enhance Customer Satisfaction. However, we did not find the support for the effect of website appearance as evidenced in Rose et al. (2012). This may be because their model did not consider the range of variables which our model did. In particular it did not take account of the post-sale experience.

In general, across the sample, well-functioning features of e-retailing website can contribute to online customers' a positive perception but not this is not a key driver for consumer satisfaction. Post purchase services including Order fulfilment (β = 0.641), Ease of Return (β = 0.414) and Responsiveness of Customer (β = 0.261) are three key drivers of customer satisfaction. This suggests that in an online retailing context, the market is very transparent, customers have ample of chances to make an informed purchasing decision, they pay more attention to quality of post purchase service.

The effect of product information on customer satisfaction is stronger for experience product than search product. This is because features of experience products are unstandardised, so information of experience product is less available than that of search product. Customers of experience product would appreciate a retailing website which provides in-depth information more than customers of search product do. This finding is a new contribution as literature relating to the effect of product information (i.e. Park and Kim, 2003; Srinivasan et al., 2002) did not examine the effect across different product types.

Similarly, the effect of customisation on satisfaction is stronger for experience product than search product. This finding is consistent with Hsieh et al. (2005) which found that structural bonds, such as providing customized service and professional knowledge, are more important for credence and experience goods/services than for search goods. This findings support for Park and Lee (2009)'s claim that for experience or low level of standardised products, a somewhat personalised, specia-

Table 6
The results of chi-square difference test and the path coefficient for the search and experience products.

Hypothesis		Chi-square difference (Δ DF = 1)	Result on hypothesis	Product type	
				Search product	Experience product
H71a	Product type moderates the relationship between PI-CS	18.843 *	Supported	0.115	0.187
H71b	Product type moderates the relationship between EU-CS	3.559	Not supported	0.138	0.151
H71c	Product type moderates the relationship between WA- CS	2.559	Not supported	0.077	0.098
H71d	Product type moderates the relationship between C-CS	4.234 *	Supported	0.161	0.221
H72a	Product type moderates the relationship between EC and CS	1.653	Not supported	0.132	0.113
H72b	Product type moderates the relationship between SA and CS	2.559	Not supported	0.198	0.189
H73a	Product type moderates the relationship between OF and CS	14.284 *	Supported	0.602	0.662
H73b	Product type moderates the relationship between RCS and CS	10.654 *	Supported	0.241	0.284
H73c	Product type moderates the relationship between ER and CS	3.432	Not supported	0.314	0.532
H74	Product type moderates the relationship between CS and RI	2.863	Not supported	0.648	0.663
H75	Product type moderates the relationship between CS and WM	3.229	Supported	0.597	0.609
H76	Product type moderates the relationship between CS and WPM	3.519	Not supported	0.216	0.233

* Chi-square difference is significant at the 5% level.

lised approach is required.

Again, the effect of order fulfilment on customer satisfaction is stronger for experience product than search product. For experience product, its quality cannot be on judged before the product is received and consumed. So order fulfilment is critical factor for e-retailers to please customers of experience product. This is a new contribution as literature on the effect of order fulfilment (i.e. Davis-Sramek et al., 2008; Rao et al., 2011) did not investigate the effect across different product types.

Also, the effect of customer service responsiveness on customer satisfaction is stronger for experience product. Our findings support for the claim by Brush and Artz (1999)'s that providing timely, high-quality customer services is the dominant driver for competitive advantage in experience goods/services markets. Consumers of experience product would appreciate responsiveness of customer service more than consumers of search product, because it is difficult for them to get specific information tailored to their situation from anywhere else. For example, a hotel website may say there is free customer parking on a first come first serve basis. It would be very difficult for the customer to understand the availability of parking other than talking to customer services.

Regarding outcomes of online customer satisfaction, our findings confirm that satisfied consumers would return to purchase and spread positive word of mouth. However, they are not willing to pay more. Our sample of UK consumers provides similar results to those of Kushwaha and Kaushal (2016) which was based on the sample of Indian consumers and found that Indian online consumers are price sensitive. This means that regardless stages of economic development, online consumers in both developed and developing countries are all sensitive with price. This can be explained by the fact that in online retailing market, shoppers can easily obtain an ample of information about products' specifications and prices from different channels to compare and contrast for the best value, so they are not willing to pay more although they are satisfied with e-retailers in their previous purchases. Our finding is different from Srinivasan et al. (2002) which found the evidence for the positive effect of customer satisfactions on willingness to pay more. This may be because their model did not take account of the comprehensive set of variables as our model did. Particularly, it did not consider the post purchase experience.

It is worth noting here that the moderating effects of product type on the relationship between customer satisfaction and repurchase intention; and between customer satisfaction and worth of mouth are not significant. This non-significant moderating effect may be due to the critical role played by customer satisfaction in e-purchase process regardless of the type of product purchased (Carlson and O'Cass, 2010). This finding is consistent with Lim et al. (2015)'s finding that there is no significant difference in the effect of e-shopping site satisfaction on purchase between search products and experience products.

5.1. Contributions

Our study provides several major theoretical implications for understanding antecedents and outcomes of on customer satisfaction. We have developed a more comprehensive model to reflect the total customer experiences in the entire online shopping process which did not exist before. By investigating a comprehensive set of customer experiences in the whole purchasing process, our paper provides more robust findings than previous studies. Srinivasan et al. (2002) and Rose et al. (2012) are the only two studies comprehensively conceptualising antecedents and outcomes of customer satisfaction but both studies did not consider the important role of post purchase experience and so produce some results inconsistent to ours.

Our study conceptualises the important role of post online sale services in retaining online customers. We argue that post online sale services including order fulfilment, return management and customer service are more critical in retaining customers than website features. Beyond price, researchers have argued that the two key encounter-specific dimensions of online retailing that drive customer satisfaction (and retention) are product performance and post online sale service (order fulfilment performance, customer service) (Rao et al., 2011). Product performance is often outside their control since most of them are retailers, selling products manufactured by others, thus, the second dimension becomes a key differentiator for online retailers who hope to generate customer loyalty. While several studies exist in this domain, to date, the relationship between post online sale service (order fulfilment, product return) and customer behaviour remains unexamined (Griffis et al., 2012; Rao et al., 2011). Our study adds knowledge to this area since research on the impact of order fulfilment and return management on customer shopping behaviour is scant.

Our paper offers more insights of the differences in the effects of online shopping experience on customer loyalty between search and experience product which were not considered in previous studies.

Our study also offers several implications for managers. In general, firms should manage their customer experience on three pillars of customer experience: prior, during, and after the purchase.

For website attributes, e-retailers need to make sure that their retailing websites are user-friendly, are easy to navigate and search for products and facilitate smooth checkout process. The websites need to provide assurance for security of payment. Marketing strategies could stress the invulnerability and the strength of encryption algorithms to protect the users.

In relation to product information, e-retailers should make it easy for customers to view and obtain accurate, consistent and comprehensive information of products. Online sellers of experience products should make effort to provide intensive and extensive information about product as customers need more information to reduce risk in

procurement of experience product.

Our findings suggest although well performing website makes customers happy, more effort should be made in the area of order fulfilment, customer service and return management. E-retailers need to aware that order fulfilment is the most important determinant of customer loyalty, especially for experience product. Good return management is the second important factor keeping customer happy. E-retailers need to apply customer friendly return policy. Responding quickly to customers' queries, requests and complaints is of third important factor. This is particularly important for e-retailers selling experience product which consumers would have more need to contact sellers in order to clarify their ambiguity about the product.

Finally, online retailing market is highly competitive and transparent, online shoppers can easily switch from one to another retailer. They are not willing to pay more despite their satisfaction with e-retailer. So, e-retails need to work on pricing strategy to make sure that their offerings are competitive in both online and offline environments.

5.2. Limitations and directions for future research

Our study has two limitations resulting from trade-off decisions required in research of this type. First, while we carefully followed methodological guidelines for sampling, locating appropriate informants, ensuring anonymity, and designing our survey to maximize respondent objectivity, the potential still exists for informant bias in our data caused by representativeness of the sample from the population. Our research sample was chosen upon our professional and social network contact, relying on their goodwill to participate in our survey. In seeking to generalise our findings, future research in online consumer behaviours may benefit from utilising online social forums to increase representativeness of the sample.

Second, while we built hypotheses guided by the directional linkages implied in the theoretical literature, we tested our hypotheses with cross-sectional data and therefore cannot empirically impute causality in the relationships examined or empirically assess the sustainability of the outcomes observed. In order to boost up reliability of data provided by respondents, future research in online consumer behaviours may utilise multi stage data collection, asking respondents questions relating to determinants of their purchasing behaviours in the initial stage and questions relating to consequences of their purchasing in the later stage.

Appendix A. Survey questions

Age
Gender
Frequency of online shopping
Most popular shopping tendency
Product bought in the last online transaction

Think of your last online transaction and use (0–10) scale (strongly disagree '0' to strongly agree '10') to rate the statements below. Give mark 5, if information is not available.

Product information (PI)	PI1	This website provides accurate information of the product.	Adapted from Park and Kim (2003), Srinivasan et al. (2002)
	PI2	This website provides detailed description of the product.	
	PI3	This website presents effective visual images of the products.	
	PI4	This website provides consistent information about the product.	
Ease of use (EU)	EU1	This website is convenient to search for a product.	Adapted from Rose et al. (2012), Thirumalai and Sinha (2011),
	EU2	This website is easy to navigate wanted pages.	
	EU3	This website is user-friendly.	
	EU4[a]	This website provides a tool that enables product comparison.	
Security assurance (SA)	SA1	This website provides assurance for security of payment.	Park and Kim (2003)
	SA2	This website provides assurance for security of personal information.	
	SA3	The feeling of security is important for me to carry on shopping on this website.	
	SA4	I have not heard a problem with leaking personal information from this website.	
Website appearance (WA)	WA1	This website design is attractive to me.	developed from Srinivasan et al. (2002) and Rose et al. (2012)
	WA2[a]	I like the colour scheme of this website.	
	WA3	I feel comfortable looking at this website.	
	WA4	This website is engaging.	
Customization (C)	C1[a]	This website enables me to order products that are tailor-made for me.	Adapted from Srinivasan et al. (2002), Rose et al. (2012), Thirumalai and Sinha (2011)
	C2	The website sends me information customised to my personal preference.	
	C3[a]	This website enables to keep save my preferred items for future purchase.	
	C4	This website makes recommendations that match my needs.	
	C5[a]	I receive reminders about making purchases from this website.	
Ease of checking out	EC1	Order placement procedure on this website is straight forward.	Thirumalai and Sinha (2011)
	EC2	This website provides order confirmation straight away.	
	EC3	Payment procedure on this website is straight forward.	
Responsiveness of customer service	RCS1	This website was responsive to my query.	Santos (2003)
	RCS2	This website was responsive to my complaint.	
	RCS3	This website quickly dealt with my request.	
Order fulfilment (OF)	OF1	The goods I bought from this website have been delivered on time.	Developed from Coyle et al. (1992), Stock and Lambert (2001), Davis-Sramek et al. (2008)
	OF2[a]	The goods I bought from this website have been delivered to the right place.	
	OF3	Upon arrival, shipment match my order	
	OF4	Upon arrival, quality is the same as description on the website.	
	OF5	Upon arrival, shipments are undamaged.	

	OF6[a]	The order was delivered in my convenient time.	
	OF7[a]	This website keeps me informed of different stage of order delivery.	
Ease of return (ER)	ER1	This website provides good amount of time to return an unwanted product.	Adapted from Griffis et al. (2012)
	ER2	It was quick to get refund for an unwanted product from this website.	
	ER3	The arrangement for return the product bought from this website is convenient.	
	ER4	The return policies laid out in this website are customer friendly.	
Customer satisfaction (CS)	CS1	I am satisfied with the pre-purchase experience from this website (e.g., product search function, quality of information about products, product comparison on the website).	Adapted from Magi (2003), Kuo et al. (2009) and Rose et al. (2012)
	CS2	I am satisfied with the purchase experience from this website (e.g., ordering, payment procedure).	
	CS3	I am satisfied with the post-purchase experience from this website (e.g., after sales support, returns, delivery care).	
	CS4	I am satisfied with my overall experiences of online shopping at this website.	
Repurchase intention (RI)	RI1	This website is my first choice when I need to make a purchase.	Adapted from Rose et al. (2012) and Kuo et al. (2009)
	RI2	I regularly repurchase from this website.	
	RI3	I intend to browse this website first for my next purchase.	
	RI4	I expect to repurchase from this shopping website in near future.	
Word of mouth (WM)	WM1	I will recommend this website to my friends or relatives.	Adapted from Srinivasan et al. (2002)
	WM2	I will recommend this website to anyone who seeks my advice.	
	WM3	I will write a positive review on this website.	
	WM4[a]	I will write a positive review about this website on social forum in other websites.	
Willingness to pay more (WPM)	WPM1[a]	I would switch to other websites that offers better price.	Adapted from Srinivasan et al. (2002)
	WPM2	I would continue to buy from this website if its prices increase somewhat.	
	WPM3	I would pay a bit more at this website instead of buying from another website that offers the same benefit.	
	WMP4[a]	I would stop buying from this website if its competitors' prices decrease somewhat.	

[a] Item with factor loading < 0.6 and was excluded from the final measurement model.

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