

CONSUMER HETEROGENEITY, PERCEIVED VALUE, AND REPURCHASE DECISION-MAKING IN ONLINE SHOPPING: THE ROLE OF GENDER, AGE, AND SHOPPING MOTIVES

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ABSTRACT

Perceived value is considered as a critical motivator of customer repurchase intention. Online shoppers with heterogeneous backgrounds may respond differently to antecedents (i.e. benefits and sacrifice) contributing to differences in perceived value. However, the extant literature exploring the relations between benefits/sacrifice and perceived value did not examine the influence of customer characteristics sufficiently. This study proposes a framework to investigate the impact of gender and age on perceived value, to better understand online consumers' repurchase decision-making process. Based upon a survey of 651 online shoppers, the empirical evidence shows that both age and gender can affect online repurchase intention through moderating the relationships between relational benefits (i.e. product quality and e-service quality) and perceived value. However, these effects were contingent upon the shoppers' motives. The findings of this study offer Internet vendors practical suggestions for developing customized strategies for creating repeat sales.

Keywords: Online shopping; Consumer heterogeneity; Shopping motivation; Perceived value; Repeat purchase intention

1. Introduction

Forrester Research Inc. forecasts that online retailing sales will grow from \$263 billion in 2013 to \$414 billion in 2018, representing a 9.5 percent compound annual growth rate [Internet Retailer 2014]. By that time, electronic commerce (EC) is expected to account for 11 percent of all retail sales in the U.S. It is believed that the majority of the growth in EC results from existing online shoppers who are spending more time and money in a wider variety of categories [Centre for Retail Research 2014]. As a result, the success of business-to-consumer (B2C) companies relies on their ability to attract customers to revisit the online stores and develop long-term relationships. However, B2C

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companies often face the fundamental challenge of how to acquire and maintain these consumers [Eid 2011; Lu et al. 2012; Wu et al. 2014].

Consumers' perceived value is the core construct and foundation in all relational exchange activities [Wu et al. 2014], and is a critical factor influencing repeat buying action in online shopping contexts [Chiu et al. 2014]. Therefore, it is crucial to identify the factors affecting consumers' perception of value. Wu et al. [2014] have shown that benefits and sacrifice coalesce perceived value. However, the linear relationships between benefits/sacrifice and perceived value might be contingent upon consumer characteristics, such as gender and age. For example, females and males have different need structures and decision models when shopping online [Zhou et al. 2014]; they may react to the same benefits differently resulting in differences in their perceived value, which in turn can result in a different repurchase intention.

EC has been accepted by a diverse population of users with heterogeneous backgrounds, in terms of age, gender differences, prior knowledge, cognitive styles, and shopping motives. These human factors are key issues for the development of Web-based applications such as EC, which leads to a significant growth into research in that area over the past decade [Chen & Macredie 2010]. Yet, less attention has been drawn to how these human factors differentially affect perceived value in the context of repeat online shopping. A clear understanding of the effects of these human factors and their interplay would allow online vendors to develop tailored strategies for improving repeat sales.

By proposing a conceptual framework based on the means-end chain theory (MEC), this study attempts to explore how two primary consumer characteristics (gender and age), interact with an important situational variable, i.e. shopping motive, to affect the linear relations between benefits/sacrifice and perceived value from the consumer's perspective. We especially focus on gender and age in the study for the following reasons: (1) the existing literature on gender and age differences related to computer usage found that there are significant impacts of gender and age on attitudes and behaviors related to computers [Yoon & Occeña 2015]; (2) gender and age are two of the most widely recognized and investigated individual factors in EC contexts [Lian & Yen 2014]; (3) understanding gender and age differences is practically of importance because these characteristics can be easily identifiable in marketing practice and accessible in consumer segment strategies, and these differences can hold across cultures [Zhou et al. 2014]. Therefore, gender and age should be considered as two significant factors that can influence or moderate the relationships between relational benefits (i.e. product quality and e-service quality) and perceived value in EC.

This study contributes to the consumer behavior and e-commerce literature in the following perspectives. First, this research provides a response to scholars' call for in-depth investigations into understanding individual differences in online consumer behavior research [Meyers-Levy & Loken 2015; Zhou et al. 2014]. Given that the systematic understanding of the effects of gender and age on the perceived value formation in an EC context is not established, it is theoretically meaningful to investigate this issue in an online repurchase context. Second, this manuscript identifies the potential boundary conditions of the moderation effects of gender and age by investigating their interplay with shopping motives. Therefore, this study facilitates a more thorough understanding of the roles of gender and age on perceived value, and adds more robust explanations of benefit-value-repurchase intention linkage to the existing literature.

2. Research Model and Hypotheses

2.1. Basic Theoretical Model

2.1.1 Means-End Chain Theory

MEC theory was developed to understand how product or service attributes and benefits facilitate consumers' achievement of values or goals. MEC theory's fundamental attributes-benefits-value-behavior relationship provides the basic framework for investigating which factors evoke repeat purchase behavior. A basic assumption of the MEC theory is that consumer's behavior is generally directed by goals, and can be regarded as a consumer's movement through the goal hierarchy [Gutman 1997]. In such a hierarchy, values can be considered as the final goals that motivate consumers to engage in shopping behavior, and benefits are the sub-goals that are subordinate to values [Chiu et al. 2014]. Customers achieve benefits accruing from the attributes [Gutman 1982]. MEC theory provides a suitable theoretical lens for connecting consumer value to behavior. It has been applied in online consumer behavior such as online shopping [Chiu et al. 2014] and online auction [Matook 2013], to provide deeper insight into consumers' cognitive structures in purchasing a product or service.

2.1.2 Value-Repurchase Intention Linkage

The value-repurchase intention linkage follows MEC's notion that values are the final goals that trigger behavior [Chiu et al. 2014]. In this study, consumers' perceived value is defined as the overall assessment of trade-off between the perceived quality of product or service received, and the aggregated costs devoted to acquire the product or service. Repurchase intention refers to the consumer's subjective probability of re-patronizing an online store, and is the major

determinant of buying action [Wu et al. 2014].

According to the MEC hierarchy, values are higher-level goals that motivate and direct shoppers' behavior and decision-making [Gutman 1997]. The decision to make a repeat purchase is primarily based on a value judgment resulting from whether or not past consumption experience helped consumers achieve their goals [Chiu et al. 2014]. MEC theory explains the relationship between value and customers' actual behavior, instead of the relationship between value and behavioral intention. However, many other theories, such as theory of reason action (TRA) and theory of planned behavior (TPB), have shown that intention - a person's perceived likelihood or subjective probability that s/he will engage in a given behavior - can be a strong predictor of actual behavior.

Considering these theories, we expect that perceived value will positively influence repeat purchase intention. Moreover, prior research has shown that customers' perceptions of value impact their tendency to revisit a product or service provider [Walker et al. 2006]. Therefore, when an online retailer helps shoppers perceive greater value, they can expect shoppers to have a greater repeat purchase intention. Two recent empirical studies [Chiu et al., 2014; Wu et al., 2014] confirmed the relationship between value and repeat purchase intention in the context of online shopping. Given all the evidence, we provide the following hypothesis:

H1: Customer perceived value will positively influence repeat purchase intention.

2.1.3 Benefits-Value Linkage

Perceived value can be divided into process value and outcome value in the MEC, with the shopping process being the means, and the value of the product obtained being the end [Keeney 1999]. Chen and Dubinsky [2003] assert that perceived value is a concept combining both the shopping value and the product value. Consistent with prior research, this study proposes that e-service quality (e-SQ), product quality, and sacrifice coalesce online shoppers' perceived value. E-SQ reflects process value or benefits, product quality represents outcome value or benefits, and sacrifice symbolizes the aggregated costs expended in the purchasing process.

E-SQ is defined as customers' overall evaluations and judgments regarding the quality of e-service delivered by online vendors. Perceived service quality has been studied as an important antecedent of perceived value in online shopping contexts [e.g., Brady et al. 2005; Wang 2008] and the positive relationship between perceived service quality and perceived value has been empirically revealed in both online and offline environments [e.g., Luk et al. 2013; Wang 2008]. If online vendors can deliver comprehensive and high-level services such as timely, accurate, and error-free order fulfillment, shoppers will perceive higher value.

Product quality refers to shoppers' judgment about the superiority or excellence of a product during or after using the product [Zeithaml 1988]. As an overall evaluation of a product, product quality is a relatively global value judgment [Kim et al. 2008]. It has an important impact on shopper purchase decisions as perceived service quality [Zhou et al. 2011]. For both online and offline retailers, product quality is a key factor to influence customer purchase and especially repurchase decisions. If shoppers associate better product quality with an online retailer, they will perceive their purchase decisions with higher value. Kim et al. [2008] confirm that perceived product quality is positively associated with perceived value.

Sacrifice is the time, money, and effort expended in order to acquire a product or service [Zeithaml 1988]. Sacrifice mirrors transaction costs in online shopping, and it includes monetary costs, such as the dollar price that the customers have to pay, and non-monetary costs, such as time and efforts that customers have to spend on the searching and purchasing process. Wu et al. [2014] show that as the consumers' perception of the transaction cost decreases, their perception of e-shopping value increases. Luk et al. [2013] also reveal that sacrifice negatively influences customer perceived value, while decreasing perceptions of sacrifice increases perceived value. Based on the above arguments about the direct relationships among e-SQ, product quality, sacrifice and perceived value, three hypotheses are formulated that:

H2a: E-SQ is positively related with the perceived value.

H2b: Product quality is positively related with the perceived value.

H2c: Sacrifice is negatively related with the perceived value.

2.1.4 E-SQ, Product Quality and Repeat Purchase Intention Linkage

Although the MEC theory stresses that benefits only serve as a means to achieve values, a separate stream of literature [e.g. Brady et al. 2005] shows that benefits determine behavioral intention [Chiu et al. 2014]. These two theories are widely accepted and acknowledged approaches for considering benefits and behavior [Peter et al. 2009]. Therefore, this study also included the direct effects of e-SQ and product quality on repurchase intention. Consistent with the service evaluation model [Brady et al. 2005], this study excluded the direct path between sacrifice and repeat

purchase intention.

In offline shopping settings, service quality and product quality have been considered to have positive impacts on repeat purchase intention [Kuo et al. 2009]. In online contexts, Kuo [2003] shows that the service quality of an online community is positively associated with continuous use. Lee and Lin [2005] reveal that the service quality of online stores positively influences repeat purchase intention. Moreover, Chen and Dubinsky [2003] also reveal that product quality in their last shopping experience affects their repurchase intention. Consistent with these existing studies, we should expect the following relations:

H3a: E-SQ will positively influence repeat purchase intention.

H3b: Product quality will positively influence repeat purchase intention.

2.2. Shopping Motive as a Situational Variable

An online repeat purchase decision is formed based on value judgments derived from the past consumption experiences that support the achievement of their shopping goals [Chiu et al. 2014]. Shopping goals are developed as a result of shopping motives that are the biological or psychological needs, wants, and desires of a person who is purchasing a product or service [Sheth 1974]. When consumers shop online, they have either task-focused motives, or experiential motives [Kukar-Kinney & Close 2010].

When shoppers are task-focused, they visit online stores for the purpose of product acquisition. In other words, they want to purchase goods and services that meet their needs or goals with minimal stress [Zhou et al. 2007]. Task-focused motive is conceptually similar to product-oriented, utilitarian, and extrinsic shopping motivations [Wong et al. 2012]. When shoppers are experiential, they engage in shopping activities for seeking thrills, adventure, disinhibition, new experiences, fantasies, cognitive or sensory stimulation, and escape from boredom. Experiential shopping motive is conceptually similar to recreational, hedonic, and intrinsic shopping motivations. In contrast to task-focused shoppers, experiential shoppers view shopping as an experience more than a means to obtain a product or service [Kukar-Kinney & Close, 2010].

Task-focused motivation has been emphasized and studied extensively in an online shopping environment while experiential motivation has been overlooked, considering that most of consumers shop online with task-focused motivation [Sarkar 2011; To et al. 2007; Zhou et al. 2007]. However, with the emergence of social media, online shopping has become an increasingly entertaining experience for consumers. Many of the unique aspects of social media are likely to create a novel, intrinsically enjoyable virtual e-commerce environment. Innovative online stores and several coupon and price comparison sites have resulted in a sharp increase in experiential online shopping.

2.3. Age and Gender as Moderators

2.3.1 Age

Age-related differences in consumer behavior are the result of physical and cognitive aging processes and accumulated life experiences [Sharma et al. 2012]. Age-associated changes make older consumers' decision-making processes and habits different from those of younger adults [Cole et al. 2008]. Several theories are proposed to explain the potential moderating effect of age on the link between quality perceptions and perceived value [Sharma et al. 2012]. Information processing theory, in particular, suggests that older consumers are less likely to seek additional information, and rely on heuristic or schema-based forms of processing when making decisions or solving problems [Ganesan-Lim et al. 2008; Yoon et al. 2005]. Shoppers with a more online shopping experience are capable of making purchase decisions with less information than those with less experience [Cheung et al. 2014; Sharma et al. 2012]. This suggests that mature shoppers are likely to employ a simpler set of criteria to make repurchase decisions, and potentially rely less on e-service.

In contrast, younger shoppers, due to their limited experience, are likely to seek and use more information to make buying decisions, and tend to rely more heavily on the e-service provided by the online store [Ganesan-Lim et al. 2008]. Indeed, previous research observes that younger customers tend to be more demanding of the e-SQ compared to their older counterparts [Ganesan-Lim et al. 2008; Sharma et al. 2012]. Thus, a high level of e-SQ delivery can help younger shoppers to form judgments about perceived value drawn from the shopping experience. Consistent with this reasoning, Sharma et al. [2012] observe that the positive relationship between e-SQ and perceived value is stronger for younger, compared to older shoppers in service evaluation process.

As indicated by John and Cole [1986], information-processing ability differences between younger and older consumers may emerge under some task conditions that are less evident, or totally absent in others. The above-mentioned information process differences between younger and older shoppers are moderated by motivation and ability. Older adults exhibit equivalent levels of information seeking and detailed processing compared to younger adults, when they have both the motivation and the cognitive ability to process information [Yoon et al. 2005]. For task-focused shoppers, they are motivated to complete the buying task effectively and efficiently, and the level of e-

SQ can hinder or facilitate its performance. For example, e-services such as comprehensive product page, well-performed in-store search engine, and 1-click ordering function can facilitate buying task completion. Thus, both younger and older task-focused shoppers value e-SQ highly.

In contrast, experiential shoppers do not have a specific buying goal in mind when visiting an online store [Zhou et al. 2007], and view shopping more as an experience than a means to obtain a product or service [Kukar-Kinney & Close 2010]. Thus, older shoppers tend to use their experience, familiarity and expertise to make repeat buying decisions, and rely less on service quality perceptions to form judgments about their perceived value, compared to younger customers. Following this line of reasoning, the moderation effect of age is more likely to emerge in experiential shoppers than in task-focused shoppers.

H4: For experiential shoppers, the positive relationship between e-SQ and value will be stronger for younger shoppers than for older shoppers; the moderation effect of age is less or nonexistent for task-focused shoppers.

Homburg and Giering [2001] observe that age moderates the link between satisfaction and repeat purchase intention, such that this relation is stronger for older consumers. They assert that this difference is a result of learning and experience that increases over lifetime. Older shoppers tend to focus on their experience and expertise to assess the product quality [Phillips & Sternthal 1977], and are confident in their own decisions [Cheung et al. 2014]. In contrast, due to their limited experience, younger shoppers do not rely heavily on their own judgments and their satisfaction with the product itself, but base their perceived value primarily on information delivered by the seller [Homburg & Giering 2001]. Hence, product quality, as an antecedent of perceived value has a stronger impact on perceived value for older, compared to younger shoppers.

However, this moderation effect of age may be more salient for experiential shoppers. For task-focused shoppers, they visit online stores for the purpose of product acquisition, and desire to purchase goods and services that meet their needs or goals [Zhou et al. 2007]. Thus, product quality is a priority, and an important factor forming perceived value. Moreover, these shoppers will spend time on searching information from a wide variety of sources, in order to acquire considerable product knowledge about the goods, and to effectively compare and evaluate the product [Moe 2003]. Accordingly, younger and older task-focused shoppers will, to a similar extent, use product quality to form value. By contrast, when shoppers are experiential, they engage in shopping activities for their inherent hedonic value. Thereby, the shoppers are more likely to base their perceived value on affect experiences in the purchase process, and they are unlikely to devote sufficient cognitive efforts to searching for product knowledge. Because of difference in accumulated experience and expertise, the impact of product quality on value is stronger for older shoppers than for younger shoppers.

H5: For experiential shoppers, the positive relationship between product quality and perceived value will be stronger for older shoppers than for younger shoppers; the moderation effect of age is less or nonexistent for task-focused shoppers.

Older shoppers are deemed to be more conscious about their time and effort in shopping compared to younger shoppers [Sharma et al. 2012]. Prior research shows that mature shoppers value efficient service more than younger shoppers, and younger customers are indifferent to devoting additional effort, as they are better at processing information [Javalgi et al. 1990]. Sharma et al. [2012] confirm that the negative relationship between sacrifice and perceived value is stronger for older compared to younger shoppers, in offline service evaluation contexts.

However, when considering the difference between task-focused motive and experiential motive, the negative relationship between sacrifice and perceived value may only be significant for task-focused shoppers and the moderation effect of age on the negative relationship may be limited to task-focused shoppers. Task-focused motivation is primarily influenced by convenience and cost saving [To et al. 2007]. Task-focused shoppers are rational and goal-oriented buyers with a clear plan and idea of what they want, and the acquired benefit depends on whether the task is completed as quickly and efficiently as possible. On the contrary, experiential shoppers will be less concerned about the resources expended in the shopping process. They search for happiness, fantasy, awakening, and sensuality during the shopping process, rather than obtaining the physical objective or completing the predetermined mission productively [To et al. 2007]. Thus, for experiential shoppers, sacrifice will have little negative influence on perceived value, regardless of age.

H6: For task-focused shoppers, the negative relationship between sacrifice and perceived value is stronger for older shoppers than for younger shoppers; while for experiential shoppers, sacrifice will have little negative influence on perceived value, regardless of age.

2.3.2 Gender

Gender may potentially moderate the relation between benefits/sacrifice and perceived value, due to gender role socialization, differences in information processing, the importance placed on core or peripheral services, and risk-taking differences [Dittmar et al. 2004; Ganesan-Lim et al. 2008; Mattila et al. 2003; Sharma et al. 2012].

Compared to women, men are more task-oriented and pragmatic in the productivity-oriented contexts, while

female users are often more process-oriented and relatively balanced toward various benefits associated with technology usage [Zhou et al. 2014]. In the offline environment, a prior survey shows that men are more likely to respond to the more utilitarian aspects of the shopping, such as the availability of parking, whether the item they come for is in stock, and the length of the checkout line [Knowledge@Wharton 2007]. Mattila et al. [2003] assert that men are more outcome-focused compared to women, placing higher value on efficiency, compared to women. Dittmar et al. [2004] reveal that males are more functional in their buying attitude, holding stronger utilitarian values that emphasize efficiency and effectiveness in offline shopping, and that their emphasis on functionality becomes more pronounced in an online buying environment. Given that efficiency is dependent on the extent to which e-SQ is delivered by the online store, the positive relationship between e-SQ and perceived value should be stronger for males than for females.

Unlike task-focused shoppers who focus solely on product acquisition, experiential shoppers are more oriented toward the activity itself. They derive gratification from affective experiences, and these experiences are often more dominant than the acquisition of products. Thus, for experiential shoppers, the difference in the effect of e-SQ on perceived value between males and females may be less evident, compared to task-focused shoppers.

H7: For task-focused shoppers, the positive relationship between e-SQ and perceived value is stronger for males than for females; the moderation effect of gender is less or nonexistent for experiential shoppers.

Drawing on social role theory, men are more willing than women to take risks, because socially men are expected to engage in individual riskier behavior [Walsh et al. 2008]. Prior studies confirm that females perceive a higher level of risk in online shopping [Bae & Lee, 2011]. Compared to males, females perceive greater functional and psychological risk in online shopping. Functional risk is also known as product performance risk, and is the perceived risk related with the disappointment that online buyers may experience when the products purchased online do not meet their expectations [Forsythe & Shi 2003]. Compared to men, women prefer and enjoy physical evaluation of products [Dittmar et al. 2004]. Females' inability to accurately judge the quality of the product online leads to higher functional risk, which may result from the barriers to touching, feeling, and trying the product or service in the online purchase environment. Psychological risk is a frustration or mental stress caused by the concern that the use or possession of a product will not match the personality or style of the shoppers, and how they perceive themselves [Chui et al. 2014]. Dittmar et al. [2004] observe that females are more likely to emphasize the social-experiential elements of shopping and report more identity-related concerns, i.e. buying to move closer to the ideal self. Thus, female shoppers are more likely to suffer greater psychological risk. Both of functional risk and psychological risk are associated with the product quality. In this sense, for females, product quality is therefore a more important cue in forming their perceived value.

Moreover, perception of greater functional risk and psychological risk propels female shoppers to experience a higher level of product involvement. Involvement is an individual's perceived personal relevance or importance of the decision to the individual in terms of basic goals, values, and self-concept [Prebensen et al. 2013]. Because females are more concerned about the product, they are motivated to expend more mental and time resources when evaluating a product in an online transaction [Cheung et al. 2014]. If an online store can offer high product quality, these customers will regard the resources devoted to be worthwhile and rewarding, which results in higher online shopping value. Indeed, Prebensen et al. [2013] confirm that involvement has a positive influence on perceived value.

Product acquisition and product quality is not the focus of experiential shoppers. As Moe [2003] and To et al. [2007] noted, experiential shopping triggers unplanned and impulse purchase, providing shoppers perceive a high hedonic stimulation. A sudden and compelling purchase prevents these shoppers from thoughtfully considering alternatives, and attenuates the risk concern. Thus, for experiential shoppers, the positive relation between their perception of product quality and value will be less influenced by gender, compared to task-focused shoppers.

H8: For task-focused shoppers, the positive relationship between product quality and perceived value is stronger for females than for males; the moderation effect of gender is less or nonexistent for experiential shoppers.

The selectivity hypothesis posits that the genders employ different strategies for processing information [Meyers-Levy & Loken 2015]. Specifically, women tend to process incoming data more comprehensively and carefully, while men are more selective data processors and rely more on highly salient and easily accessible heuristics [Meyers-Levy & Loken 2015]. Moreover, males generally exhibit more self-confidence in decision making than females [Croson & Gneezy 2009]. Consequently, males tend to complete the buying action efficiently, and exhibit more intolerance of high sacrifice purchase environments. Moreover, socialization theory also proposes that men's social and work experiences, which have conventionally involved structured scheduling and time pressure, may have socialized them to be more time conscious, therefore, males and females perceive time differently [Grewal et al. 2003; Sharma et al. 2012]. In comparison to females, males are more achievement-oriented, and that boredom and irritation emerges when males are forced to wait or spend an extended amount of time in the purchase process [Otnes & McGrath 2001]. Consistent with this prior work, Sharma et al. [2012] report that the negative relationship between sacrifice and value

is stronger for men than women.

However, the negative influence of sacrifice on perceived value may only be significant for task-focused shoppers. Experiential shoppers are less concerned about the resources expended in the shopping process; instead, they are concerned with preoccupying themselves with the shopping process [To et al. 2007]. Therefore, for experiential shoppers, sacrifice may have little negative influence on perceived value, regardless of gender.

H9: For task-focused shoppers, the negative relationship between sacrifice and value is stronger for males than for females; while for experiential shoppers, sacrifice will have little negative influence on perceived value, regardless of gender.

3. Method

Survey data were collected to provide empirical evidence to support the proposed research framework. The sample used for this study consisted of college students from a major university in southwestern United States. Only those respondents who had made at least one online purchase during the last two weeks were eligible for participation in the study. Respondents were asked to rate their most recent online shopping experience from the past two weeks. They were asked to recall their motives for purchase, to identify the online retailer(s), and to list the item(s) or service(s) that they purchased.

3.1. Measure Development

A focus group study, a face validity test, and a pilot study were conducted before the survey was finalized for data collection. A questionnaire was designed based on the literature review and the results of the focus group sessions. The questionnaire was given to two scholars to assess its logical consistency, comprehensibility, and sequence of items. Finally, the revised questionnaire was distributed to over three hundred college students to explore their most recent online shopping experiences. Exploratory factor analysis with Varimax rotation was conducted and items with lower loading or cross-loading were removed.

The final questionnaire was divided into four parts. The first section covered the respondents' recent online shopping experiences and their motivations behind the recent online shopping. The second part included items measuring e-SQ and perceived sacrifice during the buying process. The third part gauged the participants' evaluation of the product or service quality after delivery. This part constituted items for the evaluation of product quality, perceived value, and repeat purchase intention. The last section of the questionnaire concerned the demographic information of the respondents.

All measures were adapted from previous research (see Table 1). Three items from Bauer et al. [2006] and Wolfinbarger and Gill [2003], three items from Luk et al. [2013] and Sharma et al. [2012], four items from Kim et al. [2008], four items from Kim et al. [2008] and Wu et al. [2014], four items from Loiacono et al. [2007] and Wu et al. [2014], were used to assess e-SQ, sacrifice, product quality, perceived value, and repurchase intention, respectively.

Table 1: Loadings and Cross-Loadings of Measures

	E-SQ	PROD	SACR	VALU	REPU
Overall, the service quality of this website is of high standards.	.96	.54	-.25	.61	.57
Overall, the service quality of this website is excellent.	.95	.54	-.22	.60	.53
Overall, the service quality of this website is superior.	.94	.55	-.27	.59	.56
The product that I got is of superior quality.	.56	.82	-.12	.52	.47
The product that I got is of equal quality as those in physical stores.	.42	.79	-.18	.45	.39
The product that I got online was as I expected.	.48	.91	-.25	.59	.55
I am satisfied with the product that I bought online.	.50	.91	-.22	.62	.56
The price of the product charged by this website is...	.01	-.01	.69	-.18	-.10
The time required to shop online is ...	-.22	-.19	.84	-.18	-.19
The effort that I must make to receive the services/products is...	-.35	-.30	.90	-.27	-.29
The product offered by this website is a good value for the money.	.59	.56	-.28	.91	.56
The price that I pay for the product is worthwhile.	.58	.61	-.24	.94	.59
I would consider the product to be a good buy.	.60	.62	-.24	.93	.61
The goods I purchase from this site are worth every cent.	.55	.56	-.21	.89	.53
If I need to buy a product or service in the future, I would consider buying it from this Website.	.53	.50	-.23	.54	.92
If I need to buy products or service in the future, I would probably revisit this Website.	.57	.56	-.24	.61	.95
If I need to buy products or service in the future, I would probably try this Website.	.56	.59	-.25	.62	.94
If I need to buy products or service in the future, I would probably end up making a purchase from this Website.	.53	.51	-.22	.55	.92

3.2. Sample Characteristics

In order to empirically assess the proposed research model and hypotheses, we conducted an online questionnaire survey. The survey yielded 808 responses, among which 157 questionnaires were excluded for incompleteness, or having a combination of experiential and task-focused shopping motives. Two scholars independently judged and classified the shopping motives based on the answers provided by the respondents. Shoppers with a goal to acquire a specific product or service that they need were classified into task-focused motive shopping. Those who shop for adventure, gratification, value, social experience were classified as experiential motive shoppers [Arnold & Reynolds 2003]. Consistent with the view of To et al. [2007], we did not include role shopping into experiential motive shopping category, as its purpose is to acquire products in nature, and view shopping as a duty. Out of the 651 usable responses, 288 respondents were recognized as task-focused motive shoppers, and 363 respondents were identified as experiential motive shoppers.

Among the respondents, about 43% of the respondents were female, and 57% were male. There is no significant gender difference between the two motivation groups (Fisher's exact = 0.63). The average age of respondent was 23.8 years (Min = 18, Max = 53), with standard deviation of 5.7 years. About 25% of respondents are younger than or equal to 20, around 65% of respondents are between age of 21 to 30, roughly 10% of respondents ages older than 31. The average age of respondents in the task-focused group ($M = 24.37$) is slightly older than that in the experiential group ($M = 23.31$), $t(649) = 2.37$, $p = 0.02$. All respondents were experienced online shoppers, with an average of 5.5 years of online shopping experience, and an average frequency of 2.78 online shopping times per month. The main racial categories include White (56.5%), Hispanic or Latino (14.1%), Black or African American (12.3%), and Asian (11.4%), respectively. 60.52% of respondents are currently living in suburbs, 32.41% of respondents are living in urban areas, and 7.07% of respondents are living in rural areas.

4. Data Analysis and Results

4.1. Measurement Model Evaluation

Confirmatory factor analysis (CFA) was performed to evaluate the measurement model. Since Doornik-Hansen omnibus test for normality showed that the variables are non-normal ($\chi^2(36) = 1865.42$, $p < 0.01$), this study used

covariance-based Structural Equation Modeling (CB-SEM) with robust maximum likelihood estimator (MLR). The results demonstrated acceptable fit between the CFA model and observed data on a variety of goodness-of-fit indices. All goodness-of-fit measures show a reasonable fit, $\chi^2(125) = 323.44$, $\chi^2/df = 2.59$, CFI = 0.973, TLI = 0.967, RMSEA = 0.049, and SRMR = 0.039.

The adequacy of the construct measurement was evaluated with convergent validity, discriminant validity and reliability. Statistical evidence of convergent validity was confirmed by the individual high factor loadings and their statistical significance, and sufficient average variance extracted (AVE) for each construct. As seen from Table 1, all item loadings were greater than 0.65 with a significant *t*-value ($t > 2.58$ when $p < 0.01$). Moreover, as shown in Table 2, all AVEs substantially exceeded the recommended level of 0.5 [Hair et al. 2014]. Thus, this study concludes that the construct measure reveals adequate convergent validity. Constructs also exhibited sufficient discriminant validity, as the square root of AVE for each construct is greater than the correlations between constructs in all cases (See Table 2).

Reliability was examined using the Cronbach's α and composite reliability. The reliability indicators of the constructs in this study are shown in Table 2. All values are higher than the recommended minimum value of 0.70 [Hair et al. 2014]. Additionally, to check the possible common method variance (CMV), CFA was used in implementing Harmon's single-factor test, by modeling all of the manifested items as indicators of a single factor representing method effects [Wu et al. 2014]. The one-factor model yielded a $\chi^2 = 4192.65$ with $df = 135$, RMSEA = 0.215, CFI = 0.609, TLI = 0.557, SRMR=0.103, indicating that CMV is unlikely to be a serious problem in the data [Wu et al. 2014]. Further, multicollinearity is not a major concern as the squared correlations between constructs were well below 0.8 [Hair et al. 2014].

Table 2: Correlation Matrix for the Latent Constructs

	AVE	CR	alpha	E-SQ	PROD	REPU	SACR	VALU
E-service Quality (E-SQ)	.90	.96	.94	.95				
Product Quality (PQOD)	.74	.92	.88	.57	.86			
Repurchase (REPU)	.87	.96	.95	.59	.58	.93		
Sacrifice (SACR)	.66	.85	.74	-.26	-.23	-.25	.81	
Perceived Value (VALU)	.84	.96	.94	.63	.64	.63	-.26	.92

Note: The values on the diagonal are the square roots of the average variance extracted (AVE) value. The off-diagonal values are correlations between latent constructs. CR=Composite Reliability, alpha=Cronbach's alpha

4.2. Hypotheses Testing

The complexity of the underlying theoretical structure of the proposed model hampers CB-SEM when using the MLR algorithm, and results in failure to converge to a solution. As a result, Partial Least Squares (PLS) was used to assess the structural relationship of the constructs. Although there is no agreed upon global goodness-of-fit index for the PLS algorithm, it imposes minimal demand on measurement scales, sample size, and data normality, and has been widely applied in the context of online purchase [Hair et al. 2014]. In addition, five control variables (personal yearly money income before taxes, education levels, web experience, purchase quantity, and purchase frequency) were included in research model.

In this study, gender, age and shopping motives were modeled as moderators. When we analyzed the data, in order to reduce the complexity of the analysis and improve the clarity of the results, we first split the sample into two subgroup samples according to the shopping motivation (task-focused vs. hedonic), and it is a common practice to investigate the moderation effect of a categorical variable (Zhou et al. 2014). In each subsample, we then investigated the moderation effects of gender and age on the impacts of perceived benefits and sacrifice on determining the level of perceived value, respectively. Finally, the corresponding structural paths for the two sub-samples (shopping motives, in this study) were compared by performing t-tests on their path coefficients, with the pooled standard error (Sia et al. 2009). The results are shown in Figure 1. The relationships between constructs in the basic model match theoretical predictions. Perceived value represents a significant and positive predictor of repurchase intention, suggesting that increase in the perceived value can boost repurchase intention. Thus, the hypothesis H1 is supported. The effects of the e-SQ and product quality on perceived value and repurchase intention are significant and positive. Therefore, hypotheses H2a, H2b, H3a, and H3b are supported. Whereas for shoppers with task-focused motive, the effect of sacrifice on perceived value is significant and negative, for experiential shoppers sacrifice has no significant effect on perceived value. The result is also consistent with our expectation.

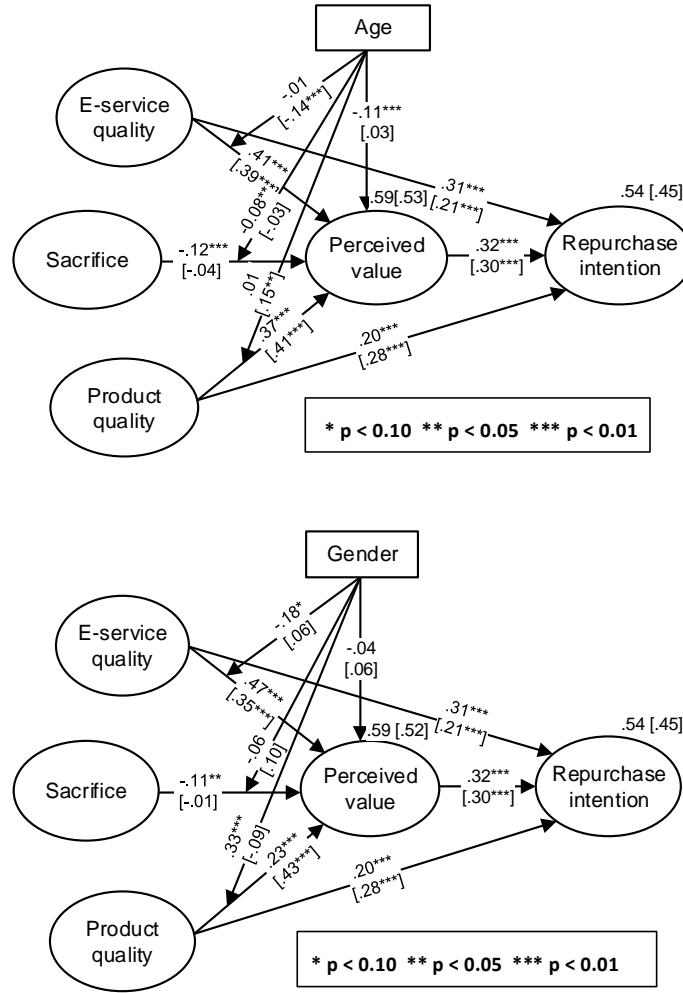


Figure 1: The Moderation Effects of Age and Gender for Task-Focused and Experiential Shoppers

Note: The path coefficients without square brackets are for task-focused shopper group ($n = 288$), and the coefficients for experiential shopper group ($n = 363$) appear in square brackets. For age moderating effects, + (-) indicates that the effect is stronger (weaker) for the older shoppers than for the younger shoppers. For gender moderating effects, + (-) indicates that the effect is stronger (weaker) for the female subsample than for the male subsample.

All of the hypothesized moderation effects of age are verified. As expected, age negatively moderates the relationship between e-SQ and perceived value ($\gamma = -0.14, p < 0.01$) for experiential shoppers. The effect is insignificant for task-focused shoppers ($\gamma = -0.01, p = 0.40$). Therefore, H4 is supported. For experiential shoppers, age positively moderates the relationship between product quality and perceived value ($\gamma = 0.15, p < 0.01$). The effect of age for task-focused shoppers is insignificant ($\gamma = 0.01, p = 0.46$). Thus, H5 is confirmed. The moderation effect of age on the relationship between sacrifice and perceived value is significantly negative ($\gamma = -0.08, p = 0.02$). The effect of age is not significant ($\gamma = -0.03, p = 0.47$) for experiential shoppers as expected. Therefore, H6 is confirmed.

The results also confirmed almost all of the moderation effects of gender. First, gender negatively moderates the relationship between e-SQ and perceived value ($\gamma = -0.18, p = 0.08$). The result suggests that for task-focused shoppers, the positive relationship between e-SQ and perceived value is stronger for males than for females. The effect of gender is much smaller and insignificant for experiential shoppers ($\gamma = -0.06, p = 0.26$). Therefore, H7 is supported. For task-focused shoppers, gender also positively moderates the relationship between product quality and perceived value ($\gamma = 0.33, p < 0.01$), suggesting that the positive relationship between product quality and perceived value is stronger for female shoppers than for male shoppers. The moderation effect is trivial for experiential shoppers

($\gamma = -0.09, p = 0.23$). Thus, H8 is confirmed. Finally, for task-focused shoppers, the moderation effect on the relationship between sacrifice and perceived value is insignificant ($\gamma = -0.06, p = 0.28$), which represents that the negative relationship between sacrifice and perceived value is not significantly different for males and for females. For experiential shoppers, sacrifice has little negative influence on perceived value regardless of gender ($\gamma = -0.10, p = 0.13$). Therefore, H9 is partially confirmed.

The proposed model implies that perceived value mediates the effects of e-SQ, sacrifice, and product quality on repeat purchase intention along with direct effects of these variables on repeat purchase intention. This study thus tested the mediation effect of perceived value by using Monte Carlo confidence interval method (Preacher and Selig 2012). The results are listed in Table 3. As summarized in Table 3, perceived value mediated the effect of e-SQ and product quality on repurchase intention. Value mediated the impact of sacrifice on repurchase intention only in task-focused shoppers.

Table 3: Results of Mediation Test

Shopping motive	Construct			Indirect effect	95% confidence interval	Mediation existence
	Independent variable	Mediator	Dependent variable			
Task-focused shoppers (age as moderator)	E-service quality (E-SQ)	Perceived value	Repeat purchase intention	.118	[.068, .177]	√
	Sacrifice			-.039	[-.072, -.012]	√
	Product quality			.117	[.068, .175]	√
Task-focused shoppers (gender as moderator)	E-service quality (E-SQ)			.138	[.078, .210]	√
	Sacrifice			-.034	[-.073, -.001]	√
	Product quality			.076	[.031, .131]	√
Experiential shoppers (age as moderator)	E-service quality (E-SQ)			.111	[.065, .163]	√
	Sacrifice			-.011	[-.035, .011]	×
	Product quality			.116	[.069, .171]	√
Experiential shoppers (gender as moderator)	E-service quality (E-SQ)			.101	[.055, .154]	√
	Sacrifice			-.001	[-.031, .028]	×
	Product quality			.122	[.069, .183]	√

Note: the 95% confidence intervals for an indirect mediation effect are computed based on 20000 Monte Carlo simulations.

5. Discussion and Implications

In response to the need to investigate individual differences in consumer behavior research, this study examines the moderation role of the two relevant consumer characteristics of gender and age, on the relationship between benefits/sacrifice and perceived value, in online shopping contexts. With all of the proposed hypotheses supported, the results reveal a set of interesting findings. First, this study confirms that e-service quality, product quality, and sacrifice coalesce online shoppers' perceived value that is an important precursor of repeat purchase behavior. The benefits/sacrifice have all significantly affected and provided a notable amount of explanatory power on perceived value for both task-focused shoppers and experiential shoppers. Among these impacts, e-service quality has the greatest influence on perceived value, followed by product quality and sacrifice in this sequence. As such, our empirical results highlight the importance of e-service quality in e-commerce.

Second, we observe the complex moderation effects of gender and age on the relations between perceived benefits, sacrifice and perceived value. Further, we find that the moderation effects are dependent on shoppers' motives (task-focused or hedonic). Although e-service quality, product quality, and sacrifice are significantly impact on perceived value, the strengths of these impacts are not consistent across gender and age. Specifically, the influence of e-service quality on perceived value is significantly weaker for task-focused female shoppers than for task-focused male shoppers. However, for experiential shoppers the impact differences are insignificant between males and females. On the contrary, the path coefficient between product quality and perceived value is much larger for task-focused female

shoppers than for task-focused male shoppers. Likewise, for experiential shoppers the impact differences are negligible between males and females. Collectively, male shoppers focus on e-service quality, while female shoppers are more concerned about product quality. However, these gender differences only exist for task-focused shoppers, for experiential shoppers the differences are trivial.

As for the moderation effect of age, we observe that the influence of e-service quality on perceived value is significantly weaker for experiential older shoppers than for younger shoppers. However, for task-focused shoppers the impact difference is insignificant between younger and older shoppers. By contrast, the impact of product quality on perceived value is much larger for experiential older shoppers than for younger shoppers. However, for task-focused shoppers the impact differences are trivial between younger and older shoppers. Together, for experiential shoppers, younger buyers pay more attention to the e-service quality while older buyers are more concerned with the product quality. In addition, the results also suggest that, for task-focused shoppers, older buyers care more about the sacrifice than younger ones, while for experiential buyers the negative influence of sacrifice on perceived value is negligible for both younger and older shoppers. Our empirical results are consistent with our expectations. In general, these findings confirm our basic contention that there are individual differences in the way shoppers perceive, evaluate, and react to their online shopping experiences.

5.1. Theoretical Implications

This study makes at least two major contributions to the literature. First, previous research has indeed examined the potential impact of benefits and sacrifice on perceived value and customer purchasing intention [e.g., Sharma et al., 2012; Wu et al. 2014], but to our knowledge, the current study represents the first empirical investigation integrating the benefits and sacrifice in online repeat purchasing context. Perceived value is one of prominent factors determining B2C ecommerce continued success. However, little empirical research investigates the antecedents and ramifications of perceived value in online repurchase context. Based on MEC theory we synthesized product quality, e-service quality, sacrifice, perceived value, and repurchase behavior to a research model and consequently, builds a comprehensive understanding of the impacts of perceived benefits and sacrifice on perceived value. This study extends the current understanding about how perceived value and repurchase intention form in online shopping contexts. More importantly, our findings extend this line of research by suggesting that the impacts of these antecedents on perceived value are contingent on customers' individual differences.

Second and more importantly, while prior research has suggested that shopping motives [Luk et al. 2013] and demographic variables [Sharma et al. 2012; Zhou et al. 2014] moderate the relations between various benefits and perceived value, this study extends this line of research by integrating the moderation effects of demographic variables and shopping motives in a single model to predict perceived value, and eventually, intention to repeat purchase. The results suggest that the impacts of gender and age are contingent upon shopping motives. Accordingly, comparing our findings with those in previous research, we extend our current understanding about the impacts of gender and age on perceived value by identifying the boundary conditions for the moderation effects of gender and age.

For instance, earlier study [Sharma et al. 2012] reveals that older customers associate their sacrifice in terms of time, money, and effort with their perceived value to a greater extent compared to younger customers. By contrast, this study reveals that only older customers with task-focused motivation are more concerned with sacrifice. For experiential shoppers there is no significant sacrifice perception difference between older and younger shoppers. Sharma et al. [2012] also argue that younger customers associate perceived service quality with their perceived value to a greater extent compared to older customers. In contrast, the current study suggests that the finding of Sharma et al. can be only applied to experiential shoppers. Luk et al. [2013] assert that the negative relationship between sacrifice and value is stronger for utilitarian compared to hedonic retail categories. Our findings partially concur with the contention, as we failed to find out the difference is salient when we included gender as a moderator in the model. Collectively, this study provides a contingent and comprehensive perspective of the impacts of gender and age differences on perceived value formation, and adds a more robust insight to benefit-value-repurchase intention linkage to the existing literature.

5.2 Managerial Implications

Beyond theoretical significance, this study is also beneficial to online retailing and marketing practices. First, the results indicate that perceived value is a critical factor leading to repurchase behavior. The findings suggest that perceived value is driven by e-service quality, product quality, and sacrifice simultaneously. Among them, e-service quality exhibits the greatest impact on perceived value. Thus, as in offline contexts, superior service quality in EC is essential for consistently excellent market performance. According to Wen et al. [2014], two quality dimensions (website service quality and transaction service quality) coalesce overall e-SQ. Website service quality is the customer's perception of the shopping website's ability to respond to customer's needs and provide a comfortable and secure shopping environment [Lin & Sun 2009]. Transaction service quality refers to the overall support delivered by the e-service provider no matter whether the support is delivered by the EC website, or its offline consumer services

departments [Wen et al. 2014]. Therefore, in order to increase online shoppers' repurchase intention online retailing managers should not only work on continually improving product quality, but also devote sustainable efforts to website quality and transaction quality, which contribute to e-SQ excellence. Reducing time and effort expended to acquire a product can also help increase perceived value, but is only effective for task-focused shoppers. Some specific measures can be taken in this aspect. For example, a comprehensive in-store search engine, and product and price comparison tools can be integrated into the website design to increase perceived convenience and cost-effectiveness. Managers can also employ the latest tools to routinely pull user-generated content such as product reviews and photos from Instagram and Twitter, and displayed in product pages to increase the substitutability of personal examination of product details, and decrease shoppers' efforts to ascertain the appropriateness of product.

Second, this study also indicates that there are individual differences in the way online shoppers perceive, evaluate, and react to their buying experiences. Consumers may react to the same set of perceived benefits and sacrifice differently in determining the level of their perceived value. Therefore, it is important for EC managers do not consider all shoppers as equal [Zhou et al. 2014]. There is no "one-size-fits-all" strategy for perceived value maintenance and enhancement in different customer segments, and the individual differences should be taken into account in their online store operations. Although interest in lifestyle or psychographic information has increased among EC practitioners, demographic information is still a fundamental and generally necessary consideration for segmentation and targeting [Ganesan-Lim et al. 2008]. Online retailing managers should develop tailored strategies in term of shoppers' gender, age, and even the shopping motives. For example, shoppers online store operators could consider exposing task-focused female shoppers and experiential older shoppers to product reviews focusing on the superiority or excellence of a product as these consumers put much higher emphasis on product quality than e-service quality. In addition, store operators should focus their attention on reducing the perceived sacrifice for task-focused older buyers especially if they constitute the majority of their customers because they have a smaller zone of tolerance [Sharma et al. 2012]. Operators could reduce the perceived sacrifice for these customers by managing online response time, providing the accurate and comprehensive product details description, and even redesigning webpages to improve the ease of use to facilitate product/service provision and minimize effort for customers.

The above suggestions are based on the prerequisite that online operators can recognize their visitors' shopping motives. Because shopping motives are situation-specific, it is difficult to predict shopping motives based on demographic variables. However, e-marketers can easily identify dissimilar motives by using page-to-page clickstream data. Task-focused shoppers generally finish the decision-making process as quickly and efficiently as possible, while experiential shoppers enjoy browsing through products and are more open to information that is irrelevant to their goals [Büttner et al. 2013]. Thus, we expect to find distinct characteristics and patterns of store visits of task-focused and experiential shoppers from the clickstream data. Predictive models can be set up based on examining navigation.

6. Limitations and Future Research

Several limitations of the study warrant careful consideration. First, this study used college students in the southwestern United States, which is not representative of the total U.S. college student body. Although there are many variations in demographic variables such as race, age, living area, income, and culture in our sample, the student sample may still pose generalizability questions without further replication and validation. Further replications must broaden the sampled population to confirm the generalizability of the results of this work. Second, this study may overlook some hidden factors affecting perceived value. Although this study controlled five potential covariates, personal traits such as chronic time pressure and variety-seeking buying tendency were not included in the research model. Future research could extend our model to include these personal traits. In addition, because we did not group the online stores, thus it is unknown that whether the results are dependent on store-type. However, we found that almost all of our respondents bought produces from business to consumer (B2C) stores such as Amazon and BestBuy. Therefore, this limitation is not serious in this study. However, further investigation of this topic could provide a good contribution to the literature.

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