

Beyond Buying: Motivations Behind Consumers' Online Shopping Cart Use

Angeline G. Close, Ph.D.

Assistant Professor of Marketing

University of Nevada, Las Vegas

4505 Maryland Parkway

Las Vegas, NV 89154

(702) 895-5956

angeline.close@unlv.edu

Monika Kukar-Kinney, Ph.D.

Associate Professor of Marketing

Robins School of Business

University of Richmond

Richmond, VA 23173

(804) 287-1880

(804) 289-8878 (fax)

mkukarki@richmond.edu

May 2009

*The authors contributed equally.

ABSTRACT

The authors investigate consumers' motivations for placing items in an online shopping cart with or without buying, termed virtual cart use. While retailers offer virtual carts as a functional holding space for intended online purchases, this study, based on a national online sample, reveals other powerful utilitarian and hedonic motivations that explain the frequency of consumers' online cart use. Beyond current purchase intentions, the investigated reasons for why consumers place items in their carts include: securing online price promotions, obtaining more information on certain products, organizing shopping items, and entertainment. Based on empirical findings, the authors offer managerial suggestions for enhancing online shopping-to-buying conversion rates.

Keywords: E-commerce, online buying, online shopping motivations, online consumer behavior.

The authors sincerely thank the reviewers and Andrew Hardin, Anjala Krishen, Len Reid, Marla Royne, and Bill Messier for peer reviews.

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1. Introduction

1.1. Importance of understanding online cart use

With electronic commerce becoming a crucial aspect of marketing strategy and customer relations, there is a growing need for developing new knowledge, models and theories on Internet customer behavior. One frequent consumer behavior that managers and scholars have begun to investigate is a pressing managerial and multi-channel concern - online shopping cart abandonment (Kukar-Kinney and Close, 2009; Oliver and Shor, 2003). Yet, prior to explaining why consumers abandon their online carts, it is vital to understand motivations to use an online shopping cart in the first place. The authors define *electronic shopping cart use* as an online behavior in which a consumer places item(s) of interest in an online shopping cart. The motivations for these synergistic and at times opposing online behaviors (placing an item in a cart and purchasing during that session versus abandoning the purchase) may be different, as theories of motivation and online consumer behavior suggest.

Traditional on-ground shopping carts (e.g., grocery carts) are utilitarian, physical carts or baskets that bricks-and-mortar retailers provide customers to assist them with gathering and storing items for immediate purchase. Electronic carts, on the other hand, are virtual spaces that exist on shopping websites and are provided with a similar purpose as traditional carts - to let customers store items for subsequent purchase at that shopping session. Retailers use also other terms, such as “my bag”, to refer to the online carts (e.g., Gap.com). Some websites keep consumers' electronic carts full after the consumer logs off without purchasing (i.e., persistent carts), but many sites automatically empty carts when the consumer closes the browser.

While e-tailers offer virtual carts to assist consumers with online *purchasing*, consumers' virtual cart use may not necessarily result from the need to store goods for immediate purchase (i.e., the purpose carts are designed for). Unlike traditional shopping carts, consumers may use their virtual carts as an online browsing or window shopping tool rather than an online purchase tool. Thus, the focus of the present research is to determine what motivates shoppers to use their online shopping carts - beyond the functional view of simply considering consumers' cart use as purchase intent.

1.2. Objectives

While reasons for on-ground cart use are relatively intuitive and practical (i.e., to hold items for the purchase at hand), researchers have yet to investigate consumers' reasons for placing items in a virtual cart. Thus, the aim of this research is to provide a theoretical model for scholars to build upon and empirical implications to aid retail managers to develop online carts that match consumers' needs. Specifically, the objective here is to build on theories of motivation to develop understanding of online shoppers' motivations for placing items in their electronic shopping carts. Further, the authors seek to understand the relationship between online cart use and online purchasing. In order to accomplish these objectives, the authors develop a framework explaining the frequency of both virtual cart use and the frequency of subsequent online purchasing. While there is an emerging stream of research on motivations for online shopping (e.g., Noble, Griffith, and Adjie, 2006; Rohm and Swaminathan, 2004; To, Liao and Lin, 2007), to the authors' knowledge there are no studies explaining consumers' reasons for using online carts beyond immediate purchase intent. While managers intend, and perhaps assume, that their customers use carts solely as the place to store items prior to immediate online purchase, this research proposes other utilitarian as well as hedonic reasons for online cart use.

These may include entertainment value of virtually acquiring desired items, wanting more information on an item, using the cart as a wish list of desired items, or taking advantage of a price promotion such as free shipping.

1.3. Overview of the article

First, the authors present a background and theory development along with a review of literature on motivations for online shopping in the areas of entertainment, pricing, shopping organization and information search to explain consumers' online cart use and online purchasing. Based on an intertwining of consumer behavior theories and electronic commerce literature, a set of hypotheses supports a framework explaining the frequency of virtual cart use and online buying. The authors then describe the online survey method and the national sample used to test the model. The article closes with a summary of the study's contributions, managerial implications, limitations and opportunities for future research.

2. Background and Theory Development

A pre-requisite to online shopping cart use is consumer acceptance of electronic shopping. Beyond usability and ease of use (Ha and Stoe, 2009), consumer attitudes, perceived congruity of e-commerce websites (Wang, Beatty, and Mothersbaugh, 2009), and website personality (Poddar, Donthu, and Wei, 2009) are important determinants of online shopping acceptance. The e-commerce, marketing, and retailing literature also recognizes both hedonic and utilitarian motivations for online shopping and buying (Arnold and Reynolds, 2003; Bridges and Florsheim, 2008). Similarly, there are utilitarian and hedonic motives for using the Internet in general, such as interpersonal utility, information seeking, convenience, and entertainment (Papacharissi and Rubin, 2000). Many of these motivations may also apply to the more specific online cart use behavior. Thus, utilitarian and hedonic motivations for both Internet use and

shopping online may help explain what drives shoppers to use their carts.

Utilitarian motivations. Utilitarian factors are broad assessments of functional benefits and sacrifices (Overby and Lee 2006). Utilitarian motivations for Internet shopping use (e.g., Noble, Griffith, and Adjie, 2006; To, Liao, and Lin, 2007) may include purchase intent at the given online shopping session and financial incentives related to saving money via online price promotions. Similarly, utilitarian motives for virtual cart use may be largely goal-directed and task-based, such as placing a desired item into the cart for purchasing, or saving time and money via purchasing online in lieu of traveling to a retail store to make a purchase. Electronic shopping carts in their very nature are utilitarian as they serve as a storage space prior to purchase. Yet, their use also entails experiential, hedonic aspects of online shopping and buying.

Hedonic motivations. Hedonic shopping motivations are defined by the shopper's judgment of the experience-based benefits and sacrifices, as consumers may shop for the experience over completing a task. Thus, the hedonic aspect of shopping consists of fun and enjoyment of the shopping experience (Babin, Darden, and Griffin, 1994). Hedonic motivations to shop online are related to various shopping types, such as adventure shopping, gratification shopping, idea shopping, and value shopping (Arnold and Reynolds, 2003). For example, as a form of entertainment, adventure shopping recognizes that shoppers seek sensory stimulation while shopping for escapism, stimulation, and adventure. Gratification shopping often helps consumer overcome a bad mood, relieve stress, or indulge in a self-gift or personal indulgence. Idea shopping entails shopping to seek out innovative products, and the latest fads, fashions, and trends--generally to gather information more so than products. Last, value shopping comprises the thrill and rewards associated with finding a deal and acquiring a product on sale (Arnold and Reynolds, 2003).

Based on utilitarian and hedonic motivations of shopping, the proposed model suggests that the frequency of online shopping cart use is dependent upon consumers': 1) intent to make a current online purchase, 2) seeking of an online price promotion, 3) perceived entertainment value of using the cart, 4) intent to organize items of interest, and 5) information-seeking behaviors. The theoretical framework provides support for inclusion of these variables in the model of consumer online cart use next.

2.1. Shopping and current online purchase intent

Purchase intention is a cognitive state reflecting the consumer's plan to buy in a specified time period (Howard and Sheth, 1969). In the present research, current online purchase intent refers to *an online shopper's intention to use his or her virtual cart as a means to purchase during the current Internet session.*

Purchase intent and other utilitarian motives are goal-directed and task-based, such as placing a desired item into the virtual cart and purchasing the item(s). With such a utilitarian motivation, just as with on-ground shopping carts, the frequency of consumers' online cart use is likely due in part to their intentions to purchase those items at that time. In this sense, the cart is primarily a functional holding place needed to temporarily store the intended purchase prior to completing the transaction. Specifically, having intent to purchase at a given online shopping session should lead to an increased frequency of placing items in the cart.

H₁: Current purchase intent will increase the frequency of consumers' online shopping cart use.

2.2. Price promotions

As retailers cannot assume that their website patrons use their carts to purchase a product immediately, other utilitarian and hedonic motivations for shopping cart use, such as seeking

online price promotions, merit attention. For some consumers, value shopping entails looking for discounts, sales, or hunting for price promotions (Arnold and Reynolds, 2003). Such monetary incentives allow consumers to experience cost savings and achieve a higher level of economic control, and consequently exhibit significant positive correlations with Internet use (Charney and Greenberg, 2001; Flanagin and Metzger, 2001; Wolin and Korgaonkar, 2003).

Here, price promotion cart use refers to *the extent to which consumers place items in their online shopping carts in order to view or take advantage of retail offers that lower the overall purchase cost, such as sales, price promotions, and free shipping*. Shoppers may decide to place an item in their cart because the item is on sale (i.e., the price has been temporarily reduced) or the site is offering another type of price promotion, such as a code-based promotion. Many Internet users expect e-tailers to offer price promotions or have lower prices than offline retailers (Maxwell and Maxwell, 2001); however, shipping and handling fees may often discourage shoppers from purchasing (Lueker, 2003; Magill, 2005). Thus, another popular aspect of online price-related promotions is free shipping or free return shipping. In addition, online price promotions provide consumers with a more pleasurable initial web shopping experience (Menon and Kahn, 2002). In sum, online price promotions provide an incentive for consumers to place items in their cart and should thus enhance the shopping cart use.

H₂: Desire to take advantage of price promotions will increase the frequency of consumers' online shopping cart use.

2.3. Entertainment purpose

Beyond placing a sale item in a cart to secure an intended purchase, for some shoppers, online window shopping and placing items of interest into their carts is entertaining. Entertainment is a further hedonic component of online shopping (Lin, 1999, Luo, 2002;

Wolfenbarger and Gilly, 1999), providing consumers a means to escape boredom, attain entertainment, and experience enjoyment (Wolfenbarger and Gilly, 1999). Entertainment enhances an online shopper's satisfaction, overall attitude toward the site, and web use (Luo, 2002). Specifically, if using a website enables an online shopper to relieve boredom and experience feelings of enjoyment and entertainment, the consumer will consequently judge the overall online experience as more satisfactory (Luo, 2002). Entertainment fulfills consumers' needs for hedonic pleasure, aesthetic enjoyment, and emotional release (McQuail, 1987). Meanwhile, stimulation and pleasure are two hedonic aspects of online shopping that can enhance marketing effectiveness even prior to any cart use (Menon and Kahn, 2002). Pleasurable online experiences early in the online browsing process enhance pleasure and arousal, leading consumers to explore novel products and websites, and making them more responsive to promotional incentives (Menon and Kahn, 2002).

As consumers often use the Web for entertainment (Mathwick, Malhotra and Rigdon, 2001), some may find online shopping and the act of placing items in their virtual cart pleasurable. For those who enjoy the act of shopping online, yet do not have the financial means or intentions to purchase at that time, placing desired items in their online shopping cart may provide an enjoyable substitute to buying. In doing so, placing an item in the cart is an experiential activity rather than a means to obtain a product or service (Wolfenbarger and Gilly, 2001). These experiential online shoppers enjoy the active interaction of clicking and placing an item in their cart (versus passively browsing items on the webpage). Therefore, entertainment use of a cart refers to *the extent to which consumers place items in the shopping cart out of boredom, for entertainment, or enjoyment-seeking*. Hence, one would expect that the more likely

that consumers place an item in the cart for these entertainment purposes, the more frequently they will use the cart than if they did not get as much pleasure out of using the cart. Thus,

H₃: Entertainment purpose will increase the frequency of consumers' online shopping cart use.

2.4. Online shopping carts as a shopping organization tool

Online shoppers may use their online carts in place of a “wish list”, i.e., as a virtual place where they can temporarily store or view items they are interested in or are considering for a possible purchase in the future. Some e-tailers (e.g., Amazon.com, BestBuy.com) provide a separate wish list in addition to a shopping cart on their websites, intended for the online shoppers to use as a place to mark items of interest or, similarly to an online gift registry, as a list to share with others (e.g., for their birthday). However, many retailers do not offer this feature, or if they do, the consumers may be reluctant to use it, in order to avoid the hassle of moving items from the wish list to the cart in the event of an eventual purchase. Other consumers may like to place items of interest into their cart, with an intention to narrow down alternatives in their consideration set for further evaluation. Finally, as some e-tailers provide “persistent” carts (i.e., carts that do not get emptied upon the customer leaving the website), shoppers may use their carts to store items simply to be able to return to them later without having to search for them again. These examples are each an illustration of an “organizational use of shopping cart”.

Therefore, the authors define organizational use of cart as *the extent to which consumers place items in their online shopping carts to create a wish list of desired items, bookmark the product for a potential future purchase, and narrow down items for further evaluation*. Further, the greater the consumers' organizational use of cart, the greater will be the overall frequency of placing items in the online shopping cart.

H₄: Organizational shopping intent will increase the frequency of consumers' online shopping cart use.

2.5. Shopping research and information search

Informativeness is another key consideration in consumers' decision to use the Internet (Luo, 2002). While online shoppers may view the cart as a convenient way to organize items of interest, they may also use the cart for a search purpose, such as a purposeful ongoing search (Bloch, Sherrell, and Ridgway, 1986). This may entail using the cart as a form of information gathering (i.e., a means to get more information on the products of interest) and as a shopping research tool. A recent study shows that a main motivation for online shopping is the ability to easily search (Punjand and Moore, 2009). Therefore, in this article, research and information search intent refers to *the extent to which consumers use the online shopping cart as a means of gathering and researching information about the products of interest for a potential future purchase*. The greater the research and information search intent, the greater will be the frequency of overall shopping cart use.

H₅: Research and information search intent will increase the frequency of consumers' online shopping cart use.

2.6. Determinants of conversion rate from online shopping to online buying

One of the primary retail goals is to convert online shoppers to buyers. Here, online buying refers to *the frequency of buying from an online store after browsing during a given Internet session*. However, online shopping, or the act of browsing for, searching for, gathering information on, and considering various goods and services via electronic channels does not necessarily result in an online buying.

The motivations for online shopping and online buying are different. For online shopping, a primary motivation is the inconvenience of physically going from a store to store (Rohm and Swaminathan, 2004; Seiders, Berry and Gresham, 2000; Wolfinger and Gilly, 2001). In addition to shopping convenience, e-tailers seek to offer also a pleasant and safe environment in order to engage shoppers (Bridges and Florsheim, 2008). While important in the shopping context, a recent study finds no evidence that hedonic elements enhance online buying; instead, the utilitarian elements increase purchasing online (Bridges and Florsheim, 2008).

Thus, in a utilitarian manner, consumers may visit an e-tailer's site with the intent to make a purchase at that session. Current purchase intent should consequently lead to a greater frequency of buying (H_6). Further, as retailers require shoppers to place items into the cart in order to make the final purchase, the more frequent shopping cart use is also likely to translate into a greater frequency of buying (H_7).

H₆: Current purchase intent will increase online buying, and

H₇: The online shopping cart use will increase online buying.

Figure 1 summarizes the hypothesized model, showing the following predictors of the frequency of online shopping cart use: current purchase intent (H_1), price promotions (H_2), entertainment purpose (H_3), organizational intent (H_4), and research and information search (H_5). Figure 1 also displays the linkages to online buying: current purchase intent (H_6) and online shopping cart use (H_7).

Figure 1 here

3. Method

3.1. Online survey method

Consistent with the online nature of the research topic, an online survey method helps test the conceptual model. To closely mirror the characteristics of overall U.S. online population, the researchers recruited survey participants via an online national consumer panel (ZoomPanel) from the marketing research company Zoomerang. The sampling frame included adults who shop online and have made an online purchase within the past six months.

The survey consisted of several groups of questions. First, the questionnaire contained questions about Internet usage in general as well as about online shopping and buying habits, specifically, such as overall frequency of shopping and buying online, individual frequency of shopping and buying for different product categories, overall frequency of placing items in the shopping cart, etc. Then, a series of statements regarding the motivations for using the shopping cart appeared under the common heading “When shopping online, how frequently do you do the following?”. Table 1 details the individual statements used in this section of the survey. Finally, the respondents answered a series of personal and demographic questions.

Table 1 here

3.2. Sample and demographic profiles

The demographic profile reveals distinct differences among the survey respondents. The national sample includes 289 online shoppers (52.6 percent males) from forty-four states. Twelve percent of the sample is 20 years or younger, 30 percent is 21 to 30 years old, 25 percent is 31 to

40 years old, 20 percent is 41 to 50 years old, and 13 percent of the sample is older than 50 years. Most have some college education. Also, there is a dispersion of household income with 42% respondents reporting less than \$50,000, 32% between \$50,000 and \$100,000, and 26% more than \$100,000. The most common occupations include: teachers, retirees, homemakers, attorneys, salespersons and healthcare professionals.

3.3. Online shopping characteristics of the sample

Most participants have been using the Internet for many years; just over half (53.7%) have been using the Internet (in general, not just for e-commerce) for at least ten years. Ninety-three percent of respondents visits online stores at least once a month, while 55 percent visits them at least once a week. Participants report purchasing online on average 39 percent of the times they visit the stores. Most informants intend to purchase in the same Internet session regularly (19%), often (22%), or very often (14%). However, nine percent of the sample never intends to make a purchase during the same online session in which they place items in the cart. In response to how often they intend to purchase the items in their cart during a later session, a majority of informants responds with never (22%) or seldom (22%). Relatively few responded that they intend to often (4%) or very often (5%) purchase the items in their cart at a later time.

With respect to online shopping and buying different types of products, such as clothing and accessories, electronics, music, travel and concert/sports tickets, respondents reported that they most frequently shop for and buy music and books ($Mean_{shop} = 3.98$ on a 7-point scale, $st.dev. = 1.82$; $Mean_{buy} = 3.65$, $st.dev. = 1.83$), followed by electronics ($Mean_{shop} = 3.55$, $st.dev. = 1.75$; $Mean_{buy} = 3.07$, $st.dev. = 1.77$). Shopping for and buying concert and sport event tickets was least frequent ($Mean_{shop} = 2.73$, $st.dev. = 1.71$; $Mean_{buy} = 2.57$, $st.dev. = 1.66$). These

findings show that online shopping environment attracts not only shoppers of utilitarian products, but also of hedonic products, such as music and travel.

3.4. Measures

The authors either developed construct measures for the present research over the course of two pilot studies or based them on prior literature. The first pilot study involved a data collection from student online shoppers (n=183) at a private east coast university, while the second study used a snowball sample of online shoppers in a metropolitan west coast city (n=247). To represent individual consumer shopping cart use motivations, the researchers combined motivation statements that clustered together under the same factor. The two pilot studies allowed for refinement of these construct measures, which consequently appeared in a refined form in the final data collection, the focus in this research. Table 1 details all measures, construct items, scale reliabilities, and standardized factor loadings.

4. Data Analysis and Results

4.1. Measurement, reliability, and validity

To determine the measurement properties of the scales, maximum likelihood estimation in AMOS assessed the confirmatory factor model including all theoretical constructs (see Anderson and Gerbing, 1988). The standardized item loadings ranged from .61 to .98 and therefore displayed sufficient item validity and reliability.

All inter-construct correlations were significantly lower than one, satisfying the test of discriminant construct validity (Anderson and Gerbing, 1988). The constructs exhibited sufficient reliabilities ranging from .74 to .96. Construct reliabilities and scale items in Table 1, and inter-construct correlations are in Table 2.

Table 2 here

4.2. Estimation and fit

Goodness-of-fit indices: $\chi^2(189)=565$, $p<.01$; incremental fit index [IFI]=.94, confirmatory fit index [CFI]=.94, and root mean square error of approximation [RMSEA]=.08 all meet or exceed the recommended cut-off criteria (Bagozzi and Yi, 1988). Thus, the measurement model fits the data well.

4.3. Conceptual model findings

To test the conceptual model, the authors employed latent variable structural equation modeling with maximum likelihood estimation (refer to Figure 1 for the conceptual model). Structural equation modeling helps control for measurement error and can improve ways to measure reliability and validity. While the overall fit of the structural model is significant ($\chi^2(193)=570$, $p<.01$), additional goodness-of-fit indices (IFI =.94, CFI=.94, RMSEA=.08) all meet the recommended levels indicating that the model fits the data well (Bagozzi and Yi 1988). Figure 1 and Table 3 provide summary results for the tested model and the standardized structural path parameter estimates.

Table 3 here

4.3.1. Predictors of placing items in the cart

Consistent with H_1 , online shoppers' intent to purchase during their current online session increases the frequency of electronic shopping cart use. Indeed, the results show that current purchase intent is the strongest predictor of cart placement ($\beta=.52$, $t=8.57$, $p<.01$). As H_2 explicated, consumers' desire to take advantage of price promotions also leads to greater frequency of cart use ($\beta=.14$, $t=2.11$, $p<.05$). H_3 next proposed that search for entertainment would lead consumers to more frequently place items in their online shopping carts. However, the data do not support this hypothesis ($\beta=-.21$, $t=-3.42$, $p<.01$). H_4 predicted that the frequency of electronic cart use would increase along with organizational intent of online cart use. H_4 is supported ($\beta=.42$, $t=5.32$, $p<.01$). The last proposed predictor of shopping cart use is research and information search. The research results do not provide support for the hypothesis H_5 that research and information search intent leads to greater frequency of cart use ($\beta=.01$, $t=.16$, $p>.10$).

4.3.2. Predictors of online buying

The final two hypotheses predicted that the customers' current purchase intent (H_6) as well as the frequency of shopping cart use (i.e., placing items in the virtual cart; H_7) would determine the frequency of online buying after Internet store visit. The results indeed show that an increase in the current purchase intent leads to a greater frequency of buying ($\beta=.91$, $t=13.03$, $p<.01$), as does an increase in the frequency of shopping cart use ($\beta=.13$, $t=2.67$, $p<.01$), providing support for H_6 and H_7 .

5. Discussion

While the data support majority of the proposed hypotheses, there are two exceptions. First, entertainment use decreases the frequency of online shopping cart use, rather than

increases. Interestingly, a direct examination of the correlation between entertainment purpose and frequency of online shopping cart placement (i.e., not via a structural equation model) shows that this relationship is significant and positive ($\rho=.12$, $p<.05$). The above discrepancy may have arisen because of the use of structural equation modeling, which accounts for multiple predictor effects at the same time, any correlations among the predictors, as well as any measurement error. Thus, beyond other investigated predictors, entertainment purpose is not able to contribute individually to increased shopping cart use; instead, entertainment-based motivations result in decreased consumers' cart use. Hence, consumers who are shopping for fun, entertainment, or to escape boredom may be content merely browsing from page to page, rather than actively engaging in putting items into their virtual shopping cart.

The second surprising outcome is a lack of significant relationship between research and information search intent and the frequency of online cart use. While retailers design their online shopping sites to be information-based, virtual carts do not appear to serve consumers as a tool to further research the products of interest; instead, consumers seem to be able to sufficiently search for and gather information about products without the necessity of placing the items of interest into their carts. The present examination of online cart use reveals that consumers do not necessarily place items in their carts to obtain more information on the product. In fact, online shoppers may refrain from placing an item of interest into their virtual cart without upfront product or availability information. Thus, it is crucial that retailers provide such information to consumers prior to requiring them to place an item of interest in their shopping cart.

6. Contributions, Implications, and New Research Directions

6.1. Theoretical contributions of present research

This research represents an initial effort to investigate the determinants of consumers' electronic shopping cart use and offers important contributions and implications for marketing, retailing, channels, and electronic commerce scholars and practitioners. Theoretically, the research advances knowledge by identifying the key consumer motivations of online cart use and consequently online purchasing. The authors extend the research context from overall Internet use to virtual shopping cart use, specifically. Beyond the constructs previously proposed to drive motivations for consumers' Internet use, the authors identify organizational intent as another important driver of virtual cart use.

In turn, this research provides managerial implications for enhancing shopping-to-buying conversion rates. For consumers, it suggests new ways of thinking about using their carts as a shopping organizational tool and a way to assist in waiting for an online sale. Thus, consumers can realize that a virtual shopping cart is more than simply a utilitarian space to store goods prior to subsequent purchase.

6.2. Managerial implications

This research has practical implications for online retailers. The findings identify consumer uses of online shopping carts beyond the use for which the carts were designed (i.e., to store the intended purchases for purchasing during a given online session). Specifically, the findings uncover a heavy organizational shopping explanation behind cart use. A sizeable segment of shoppers uses their carts not necessarily as a place to store goods prior to purchase, but as a wish list or a virtual place to store and organize their consideration set for a possible future purchase—either at that site, a competitor's site, or using a traditional retail channel. This organizational intent impacts the frequency of placing items in the cart almost as much as having current purchase intent.

The finding that consumers often use their online shopping carts for organizational purposes, such as a wish list or a list for a possible future purchase, indicates that e-tailers need to make sure that they provide their customers with “persistent” shopping carts, or carts that do not get emptied once the consumer leaves the website. Upon returning to their carts at a later online session, the carts should dynamically recalculate any revised prices, offer new promotions (e.g., free shipping), and present a new total cost of the potential transaction. Such feature would allow consumers to experience the most benefits associated with their cart use as well as allow the e-tailers to eventually realize the sale without requiring the customer to go through the effort of finding the relevant products again.

Second, the findings indicate that price-motivated consumers have a higher frequency of placing items in their online carts compared to those not motivated by reduced cost offers. Price-related cart use behavior may also arise because some sites do not reveal the total price of the item, with tax and shipping/handling fees, until the shopper actually places item into the cart. Also, sale or deal prone consumers may desire a convenient way of monitoring prices for possible price decreases. This finding indicates an importance of online retailers maintaining promotion programs in place to stimulate the consumers’ online cart use and consequently, buying. In fact, consumers may favor price promotions over every-day low pricing, as such discount programs may provide them with a greater sense of economic gain and control. Moreover, retailers can use the information on the items that sit in the carts for a period of time to create sales as a way to move merchandize that a consumer is holding while comparison-shopping competitive sites.

Third, the research confirms that many shoppers who use their virtual carts indeed intend to make an online purchase at that time. For managers, the key role of purchase intent highlights

the importance of making it convenient for shoppers to easily place items they intend to buy in their cart in order to enhance the conversion rate from online shopping to online buying.

Furthermore, once the consumer has placed an item into the cart, the purchase process should be as simple and hassle-free as possible (e.g., availability of one-click buying option for returning customers) to prevent customer flight to a competitor's site, retail store, or an alternative channel.

6.3. Limitations and future research opportunities

While contributing important insights into why consumers use online shopping carts, this research does have some limitations. First, the sample consists of online U.S. consumers; future studies should examine other populations to determine the generalizability of findings to different countries and contexts. Second, the present data entails self-reported, rather than actual consumer behavior. A valuable contribution would be to couple survey results with an e-tailer's click-stream data to provide a more thorough picture of this common online consumer behavior that has yet to receive ample scholarly focus. Experimental simulations in which researchers manipulate individual variables would also be beneficial.

There are many other opportunities to build on this study in future research. Suggested areas include examining interactivity, demographics, and emerging mobile commerce contexts. For example, it would be interesting to examine if there are any motivations of interactivity related to virtual cart behavior. There are two types of interactivity a consumer may encounter in online shopping. First, an online shopper may engage in human-message interactivity with a message sent by the e-tailer (for instance, a confirmation message). Second, an online shopper could chat with a live representative or with other customers in a human-human interaction (Ko, Chang-Hoan, and Roberts, 2005). In the context of online shopping cart use, shoppers may chat

with the e-tailer or other online shoppers about the items in their cart, which may be a future avenue to explore.

As a second way to build on this research, a more detailed examination of demographics, such as gender and age, as predictors of online shopping cart use would be valuable. While there are studies examining the role of online demographics in Internet use and online shopping, there are no studies that analyze how frequently men and women, or different age groups use their virtual carts and for what reasons. Researchers could also combine a demographic study with an investigation of the types of shopping cart use across different products and product categories, including a comparison of utilitarian and hedonic products and services.

As a third way to further build on this work, scholars could examine this framework in emerging forms of mobile commerce or non-store retailing that use virtual carts, such as vending machines selling electronics, or the Red Box DVD vending machines. While traditionally vending machines simply release a product immediately after the consumer puts in money and chooses the selection, more modern non-store retailing machines often feature virtual carts as holding areas prior to purchase. Future studies may examine if consumer motivations for using carts are similar in these contexts.

Finally, researchers could use other theoretical bases to derive predictions of consumers' online shopping cart use. For example, researchers could study the extent to which the Theory of Reasoned Action (Fishbein and Ajzen, 1975) can help explain this common, yet under-investigated online consumer behavior.

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Figure 1: Conceptual model of consumers' electronic shopping cart use

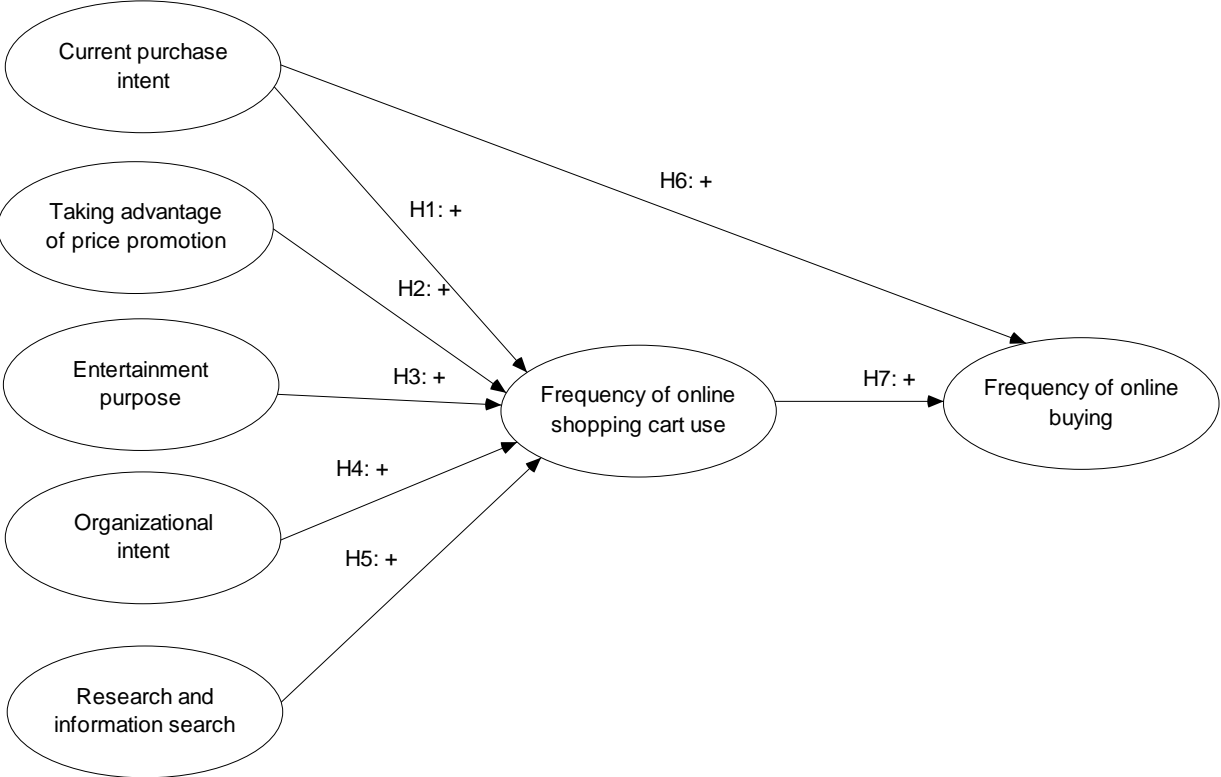


Table 1: Measures

Construct items and scale reliability	Standardized factor loadings
<i>Current purchase intent ($\alpha = .74$)</i>	
I shop online with intent to purchase during that session.	.83
I place items in the online shopping cart with intent to purchase them immediately.	.76
Of the times you visit Internet stores, what percentage of the times do you visit with an intention to buy immediately? ^a	.61
<i>Taking advantage of the price promotion ($\alpha = .91$)</i>	
I place items in the shopping cart because they are on sale.	.79
I place items in the cart because the Internet retailer offers free shipping.	.92
I place items in the cart because there is a special promotion going on.	.93
<i>Entertainment purpose ($\alpha = .96$)</i>	
I select and place items in the shopping cart when I am bored.	.97
I select and place items in the shopping cart to entertain myself.	.98
I find placing items in the shopping cart enjoyable.	.80
I select and place items in the shopping cart for fun.	.92
<i>Using the cart with organizational intent ($\alpha = .94$)</i>	
I use the shopping cart as a "wish list" for myself.	.88
I place an item in the shopping cart so that next time I am at the website I do not have to search for it again.	.92
I place items in the shopping cart so I can more easily evaluate a narrowed-down set of options.	.82
I use the shopping cart to "bookmark" the items I like for a possible purchase in the future.	.94
<i>Research and information search ($\alpha = .94$)</i>	
I use the shopping cart as a form of information gathering.	.93
I use the shopping cart to get more information on the product.	.93
I use the shopping cart as a shopping research tool.	.92
I place items in the cart because I am curious about the price.	.79
<i>Frequency of online shopping cart use</i>	
Of the times you visit Internet stores, what percentage of the times do you place items in your online shopping cart (with or without buying)? ^a	N/A
<i>Frequency of online buying ($\alpha = .76$)</i>	
When I shop online, I usually buy something in the same Internet session.	.82
Of the times you visit Internet stores, what percentage of the times do you actually buy something? ^a	.60
When I place an item in my shopping cart, I usually buy it during the same Internet session.	.78

Note: Measured on a scale 1=never, 7=always except when denoted by ^a; those statements were open-ended and can take values from 0 - 100%.

Table 2: Construct Inter-Correlations

	Current purchase intent	Price promotions	Entertainment	Organization	Research and info search	Online cart use	Online buying
Current purchase intent	1						
Price promotions	.20***	1					
Entertainment purpose	.07	.36***	1				
Organization Intent	-.15**	.52***	.54***	1			
Research and info search	-.03	.59***	.56***	.71***	1		
Online cart use	.48***	.41***	.12**	.33***	.27***	1	
Online buying	.91***	.26***	.10	-.03	.02	.57***	1

Note: ** $p < .05$; *** $p < .01$.

Table 3: Testing the Proposed Model Relationships

Hypothesis Sign	Path from → to	N = 289		
		Standardized estimate	t-value	Conclusion
H1: +	Current purchase intent → Online cart use	.52	8.57***	Supported
H2: +	Taking advantage of price promo → Online cart use	.14	2.11**	Supported
H3: +	Entertainment purpose → Online cart use	-.21	-3.42***	Rejected
H4: +	Organizational intent → Online cart use	.42	5.32***	Supported
H5: +	Research and information search → Online cart use	.01	.16	Rejected
H6: +	Current purchase intent → Online buying	.91	13.03***	Supported
H7: +	Online cart use → Online buying	.13	2.67***	Supported

Goodness-of-Fit Statistics
Chi-square (d. f.) = 570 (193); $p < .01$
IFI = .94; CFI = .94; RMSEA = .08

Note: ** $p < .05$, *** $p < .01$. Given that the direction of the relationships was predicted, the p-values are one-tailed.