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# Shipping and Return-Shipping Costs do not Cost the Same: The Role of Gender and Product Price in Online Buying

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## ABSTRACT

Shipping is one of the costliest elements of online retail; it is also a sore topic for consumers. There is still relatively little or no research that examines the relative role of shipping and return-shipping costs on consumers' purchasing intentions. In this research, we examine two questions: what is the relative role of shipping and return-shipping costs on consumers' purchase intentions. Secondly, how does gender moderate the relationships between the above costs and subsequent purchasing intentions? Data was collected using Amazon Mechanical Turk from respondents all over the US. The findings show that shipping costs impact purchasing decisions for both expensive and inexpensive products. However, return-shipping affects the purchasing intentions for costly products only, more so for males than for females. In all, the study makes a unique contribution by examining the shipping and return-shipping cost questions in online buying that are relatively understudied so far.

## Keywords

Shipping cost, return shipping cost, trust, gender, e-commerce

## INTRODUCTION

Online retailers face the increasing charges of high shipping (Lojistic.com 2017; WSJ 2015), as well as increasing reluctance on the part of the consumers to pay for high shipping as well as high return-shipping costs (Bower and Maxham 2012; WSJ 2015). According to an estimate in 2015, Americans returned \$260 billion in merchandise to retailers (CNBC 2016). Shipping and return-shipping costs hurt the profitability of many online retailers - retailers only get 15~30% to the dollar for these returns. Moreover, online returns average around 33 percent as opposed to 9 percent for physical store returns (Bloomberg.com 2017; CNBC 2016; Wharton.edu 2007) – thus further exacerbating the problem. Higher shipping costs lead to shopping cart abandonment (BusinessInsider.com 2014), while high and perceived unfair return shipping costs are known for lowering consumers' post-return purchases (Bower and Maxham 2012) - thus making it difficult for online retailers to pass on these costs to the consumers. Online retailers are increasingly experimenting with different return-shipping costs and policies to stem the tide of web (of) returns, such as by partnering with physical stores to accept returns to minimize return shipping costs (Bloomberg.com 2017). Moreover, consumers in general, are reluctant to foot the shipping cost bill as well as return shipping. WSJ (2015) suggests that consumers demand speed and convenience while balking at paying extra for better service, and another source (Parcelindustry.com 2015) suggests that online shoppers are willing to sacrifice delivery speed for a lower shipping cost. Bower and Maxham (2012) showed that customers who paid for their return decreased their post-return spending at that retailer 75%–100% by the end of two years.

“The growth and evolution of the e-commerce sector have highlighted the importance of shipping and handling (S&H) fees for business models that involve a spatial separation between customers and retailers” (Lewis 2006 p. 1). However, research has yet to investigate how these return shipping policies can influence customer purchasing decisions (Bower and Maxham 2012). Research suggests that trustworthy websites can command a premium (Gregg and Walczak 2010; Pavlou and Dimoka 2006). Moreover, there is little doubt consumers loathe shipping costs and return shipping costs. However, till date, there is no systematic examination of the role of trust in commanding high shipping and return shipping costs. Thus, this research aims to study the following two research questions: 1. Do shipping costs and return shipping costs

matter differently (regarding purchase intentions) when it comes to inexpensive and expensive products, and 2. Is the above relationship moderated by user gender?

The paper’s organization is as follows: the next section presents the research model and the hypotheses. In the following section, we discuss research methodology and results. The paper concludes by discussing the theoretical and practical implications along with the future research directions.

**RESEARCH MODEL**

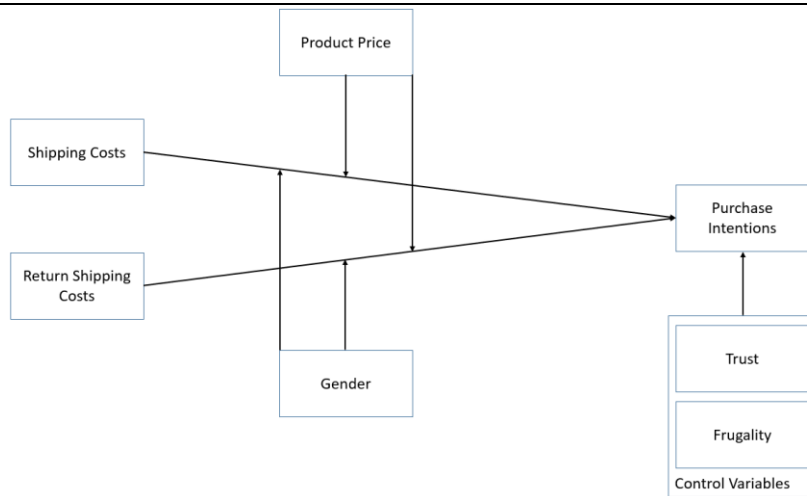
The research model is shown in figure 1 and explained below.

Evidence from consumer surveys suggests that online users are demanding – they desire both faster delivery and cheaper shipping costs (WSJ 2016), this is a remarkable change from earlier studies which suggested that customers prefer cheaper shipping over faster delivery (Parcelindustry.com 2015). Either way, it is beyond doubt that shipping costs play a decisive role in online buying. Using simulation study with data from internet retailer specializing in grocery and drugstore items Lewis (2006) show that shipping costs impact order incidence and order size. Research suggests that free shipping leads to higher order frequency, and lower average value purchase (Lantz and Hjort 2013). Thus it could be argued that shipping costs would impact purchasing intentions for inexpensive items more because shipping costs, as a percentage of the product price, are significantly higher for inexpensive products than they are for expensive products. Hence,

H1: Shipping cost (a) negatively impacts purchase intentions (b) more so for inexpensive products than for expensive products.

Lenient return policy and cheaper return shipping costs assure the consumer in returning the item quickly (and or cheaply) in case one is not satisfied with the same. Thus, lower return shipping costs could be argued to be akin to a “service contract.” Research suggests that consumers buy a warranty for expensive products (Chen et al. 2009); and lenient return policies foster satisfaction and trust in online purchase environments (San Martín and Jiménez 2011; Wang et al. 2004). Hence,

H2: Return shipping costs (a) negatively impact purchase intentions (b) more so expensive products than for inexpensive products.



**Figure 1. Research Model**

Gender differences are not only social but also biological (Dimoka et al. 2011; Gefen and Straub 1997). Research suggests that men and women decide differently (Benko and Pelster 2013) and possess different buying behavior (CNBC 2015), probably return behavior as well (see Powers and Jack 2015). Chen et al. (2009) in their study on extended service contracts argued that women are more risk-averse than men, perceive higher probability of product failure (especially for expensive products), and are more sensitive to the expected replacement costs. However, their results were contrary to their

hypothesis. Similarly, Martín et al. (2011) showed that males experience greater satisfaction from warranty – as it lowers cognitive uncertainty associated with online buying, something that males value more than females do. Hence,

H3: When it comes to expensive products, purchase intentions for males more than so for females, are impacted by return shipping costs.

## RESEARCH METHODOLOGY

We designed the survey using Qualtrics. Each respondent was asked to agree to the consent form, view a website, evaluate its trustworthiness, and then answer questions about a shopping vignette (as discussed in Table 1). Respondents were asked to evaluate their intention to buy the product given its product cost, shipping cost and return shipping cost. We also collected data on perceived trust, frugality (Bansal and Zahedi 2014), and demographics such as age, gender, and US state location. Moreover, we had four attention check questions and one manipulation check question about the perceived price and costs of the product.

We collected data from MTurk workers. MTurk's technique for data collection is recognized to be high quality and reliable (Hibbeln et al. 2017). The study utilized eight scenarios (price-high/low, shipping cost-high/low, and return-shipping cost - high/low), as shown in table 1 below. We randomly assigned the scenarios to respondents, such that each respondent only viewed one scenario. The high product price category included a camera (\$250), and the low product price category included shoes (\$10). The high shipping rate was \$10 for shoes and \$30 for the camera. The low shipping rates were \$0 (free) for both the camera and shoes. The high return shipping rates will be around \$10 for shoes and around \$30 for the camera.

Experiment Design						Sample Demographics	
Scenario #	Product	Price Category	Shipping Cost \$	Return Shipping \$	Product Price \$	# Males	# Females
1	Shoe	Inexpensive	Low	Low	Low	23	24
2	Shoe	Inexpensive	Low	High	Low	28	21
3	Shoe	Inexpensive	High	Low	Low	22	25
4	Shoe	Inexpensive	High	High	Low	19	22
5	Camera	Expensive	Low	Low	High	12	22
6	Camera	Expensive	Low	High	High	18	17
7	Camera	Expensive	High	Low	High	20	24
8	Camera	Expensive	High	High	High	14	24

**Table 1. Experiment Design and Demographics**

A total of 661 MTurk workers, from all over the US, took the survey. We utilized four attention check questions - (a) three cost questions – product cost, shipping cost, return shipping cost (b) website name (c) website specialty, and (d) scenario (shoe or camera). We retained only those respondents (n=488) who cleared all the attention check questions for further analysis. Also, we asked a question about the perceived expensiveness of the product (on a scale of 1-3), and retained only those MTurk workers who answered the shoe as inexpensive, and the camera as expensive for the final data analysis (n=349). We removed 13 MTurk records as they were duplicates not taken by unique workers. The final sample size is thus 336. There were 156 males (average age 35.97 years, range 20 to 71 years, std dev 11.48 years), and 179 females (average age 37.03 years, range 18 to 68 years, std dev 10.34 years). Before proceeding with the analysis, we conducted EFA analysis and found that all the items loaded on to their intended construct showing adequate convergent and discriminant validity. We also measured composite reliability (CR) and found it to be above 0.723. Thus there were no issues with discriminant, convergent validity, and reliability.

Items	Intent	Trust	Return Shipping	Shipping Cost	Frugality
Intent1	<b>0.938</b>	0.166	-0.061	-0.131	-0.046
Intent2	<b>0.941</b>	0.165	-0.068	-0.149	-0.084
Intent3	<b>0.937</b>	0.155	-0.055	-0.190	-0.002
Intent4	<b>0.921</b>	0.145	-0.052	-0.165	0.026
ShippingCost1	-0.181	-0.014	0.093	<b>0.940</b>	-0.052
ShippingCost2	-0.186	-0.002	0.069	<b>0.954</b>	-0.031
ShippingCost3	-0.181	0.015	0.073	<b>0.960</b>	-0.045
ReturnShippingCost1	-0.067	0.000	<b>0.983</b>	0.066	0.008
ReturnShippingCost2	-0.059	-0.004	<b>0.987</b>	0.071	-0.018
ReturnShippingCost3	-0.068	-0.022	<b>0.979</b>	0.091	-0.027
Trust1	0.110	<b>0.949</b>	0.009	-0.011	-0.007
Trust2	0.154	<b>0.958</b>	0.000	-0.026	-0.005
Trust3	0.162	<b>0.961</b>	-0.012	0.014	-0.001
Trust4	0.171	<b>0.926</b>	-0.027	0.014	-0.026
Frugality1	0.022	-0.053	-0.028	-0.058	<b>0.896</b>
Frugality2	-0.093	0.027	-0.001	-0.041	<b>0.894</b>

Table 2. EFA (overall)

Results

We averaged the items loading together in EFA. We then plotted the mean purchasing intentions for males and females separately for the eight scenarios as shown in figure 2. The eight scenarios are plotted on the x-axis and mean trusting intentions are on the y-axis. We then carried out two different ANOVA tests (with Bonferroni posthoc) separately for males and females using scenario as a factor.

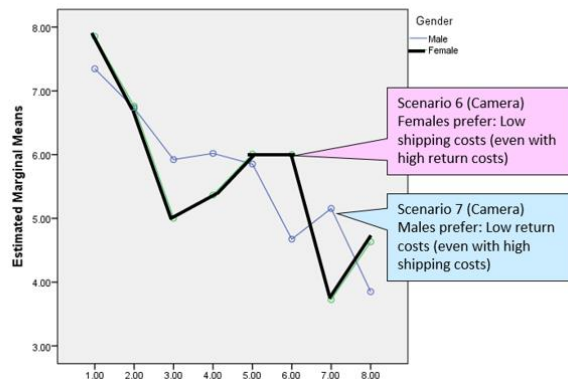


Figure 2. Plotting of Intent Means for Males and Females across 8 Scenarios

In the male group we observed significant differences between scenarios 1 and 8 ( $p=.042$ ), and at  $p<.10$  level in 1 and 6 ( $p=.067$ ). In the female group we observed significant differences between scenarios 1 and 3 ( $p=.042$ ), 1 & 7 ( $p=.000$ ), 1 & 8 ( $p=.000$ ); 2 & 8 ( $p=.034$ ); and at  $p<.10$  level in 2 & 7 ( $p=.052$ ).

We also performed t-tests to compare males and females for each of the eight scenarios. We found that significant difference exists between males & females in scenario 6 ( $p=.041$ ) and at  $p<.10$  level in scenario 7 ( $p=.070$ ). This shows that men and women react in opposite way to scenarios 6 and 7. It seems women are indifferent between low and high return shipping costs if the shipping cost is high, especially if it is an expensive product. We also conducted several different regression analyses. First, we estimated two regression models for a) shoe and b) camera groups. Shipping cost negatively impacts purchasing intentions only in shoe group, however, both shipping and return shipping costs negatively impact the purchasing intentions in the camera group.

Next, we analyzed six different regression models (table 3). We used one tail tests and therefore divided the SPSS p-values by 2. Results show that shipping costs play a critical role in deterring purchase intentions for both inexpensive (model #1) and expensive products (model #2), thus supporting H1. Results also show that return shipping costs negatively impact purchase intentions only for expensive products (model 2), thus supporting H2. Models 3~4 suggest that for expensive products, return shipping impact the purchase intentions only for males (model #5), and not for females (model #6), thus supporting H3 (also see Figure 2). The regression analysis shows that trust positively impacts purchasing intentions in all six models, and frugality plays a significant role only in the camera scenario.

Model #	Select Cases	N	R Square	SC	RSC	Frugality	Trust	Normality	Linearity	Equal Variance
1	Shoe	184	.271	<b>-.360</b> (.000)	-.023 (.680)	-.102 (.464)	<b>.607</b> (.000)	x	x	x
2	Camera	151	.186	<b>-.205</b> (.001)	<b>-.104</b> (.075)	<b>-.267</b> (.083)	<b>.350</b> (.001)	x	x	x
3	Male Shoe	92	.246	<b>-.266</b> (.006)	-.007 (.933)	.061 (.765)	<b>.673</b> (.000)	x	x	x
4	Female Shoe	92	.308	<b>-.432</b> (.000)	-.047 (.567)	-.129 (.509)	<b>.551</b> (.001)	x	x	x
5	Male Camera	64	.188	.023 (.812)	<b>-.179</b> (.054)	-.066 (.759)	<b>.426</b> (.008)	x	x	x
6	Female Camera	87	.273	<b>-.356</b> (.000)	-.033 (.667)	-.278 (.213)	<b>.336</b> (.020)	x	x	x

**Table 3. Regression Results**

Abbreviation: SC – shipping cost; RSC – return shipping cost; N – sample size

## DISCUSSION

This study is among the first to examine the relative role of shipping costs and return shipping costs on purchasing intentions. The research shows that online users base their purchasing decisions on perceived shipping and return shipping costs. The findings show that men are more sensitive to return-shipping costs than women, especially for expensive products. The study makes several contributions. It is among the first studies to examine the relative role of shipping costs and return shipping costs in the online environment— thus adding to the Marketing and MIS research literature. The study has several managerial implications. It provides a detailed contextual analysis across 16 purchasing scenarios. By examining the role of gender in online buying, the study also adds to the study on gender differences. Future research could look into other variables such as user age and personality; it could also examine other products.

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