SUPPLY CHAIN IMPLICATIONS IN REGARDS TO CONSUMER BEHAVIOR IN ONLINE RETAIL: SITE-TO-STORE VERSUS DIRECT SHIPPING

By

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ABSTRACT

The purpose of this research is to explore consumer behaviors in online retail. As traditional brick-and-mortar firms adopt online shopping as a sales channel, it is of the utmost importance that they understand how consumers in this space behave. With the advent of site-to-store shipping from large retail firms like Walmart and Target, it is important to know how customers perceive the shipping option when compared to the direct shipping option that is standard among online retail. Specifically, this research aims to find a convenience value for direct shipping over site-to-store (also known as Order Online, Pick-Up at Store or simply "in-store pick-up"). Additionally, the paper aims to provide some insight into how this convenience value might change based on item price. The research also addresses several demographics to determine if these have any impact on consumer preferences. Finally, the paper identifies the satisfaction levels of those customers for both the direct and in-store pick-up shipping options.

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INTRODUCTION

Between 2000 and 2008, the online retail industry rose from 0.8% to 3.8% of total retail sales, and is expected to continue on a similar path in the future (Mahar et al, 2012). In fact, in 2010 online retail eclipsed $142 billion in the US alone (Koukova et al, 2012). Online retail is no longer exclusive to pure-play online retailers. The emergence of ecommerce in the retail space has prompted nearly every prominent brick-and-mortar retailer to adopt the Internet as a new channel to reach consumers in an effort to take some of this growing market share. This multi-echelon approach to retail provides opportunities for companies to reach new customers while also complicating the supply chain. Retailers must be aware of both the benefits and challenges of venturing into online retail before they can make an informed decision.

In regards to traditional brick-and-mortar retailers that have adopted an online channel, two primary shipping methods have emerged as a way to reach their online customers: site-to-store and direct shipping. Direct shipping, when products are shipped directly to the consumer's house, is the most common method. It is the one used by exclusively online retail firms such as Amazon. The other method, site-to-store, is an attempt by brick-and-mortar retailers to capitalize on their existing resources and infrastructure to create a competitive advantage. Companies that use this method, such as Walmart and Target, will ship the item purchased online to a store location for free, where the consumer can then pick it up. This method gives the company the advantages of additional selling potential and decreased shipping costs, since the item can be shipped through the established retail channel. Companies that offer this method tend to have specific distribution centers that act solely as online fulfillment centers.

The current research in online shopping addresses the benefits of this site-to-store method, but it fails to address the struggle between the desire of retailers to get customers in their stores and the desire of consumers to receive their items without having to leave the comfort of their homes. It is understood that shipping directly to a consumer's house is more convenient to the consumer than making a trip to the store, but the retailers want to push people into their stores to gain more sales. The site-to-store method, also referred to as "order online pick up at store" (OOPS) and in-store pick-up, tries to establish some of the consumer convenience of shopping online with the efficiencies of established supply chains (Chatterjee, 2010).

However, current research fails to account for these consumer preferences in a tangible, mathematical, and definitive way. Therefore, this paper will attempt to identify the specific change in price it would take to get an online shopper to purchase an item using site-to-store over direct shipping. To reiterate, this is the amount of money one must be willing to give up in order to have the convenience of having an item shipped directly to the final destination. Once this number is established, companies can use this research to set their own pricing strategies with online sales. With a tangible dollar amount equivalent to the convenience difference between site-to-store and direct shipping, companies will know how where to set their prices to push shoppers towards whichever method the company prefers. If the company believes the value to the firm is greater than the price difference for one method over another, the company can use this to set a pricing strategy to encourage consumers to pick that shipping method.

This paper will consist of a literature review and analysis of a vignette experiment conducted through a consumer survey. The literature review will provide background

information on what has been researched in the past regarding online retail and context for the experiment. The results from the experiment will provide insight into how consumers view the different online shipping options.

LITERATURE REVIEW

As online commerce continues to grow, research into consumer behavior regarding online shopping has also increased. Retailers need to know how to market to these online consumers, so research into consumer behaviors in online shopping has never been more critical. As online shopping has become increasingly popular, retailers are expanding shipping options to consumers in order to attract the most customers. Online retailers have typically used direct shipping to deliver products to customers. However, large retail chains with both a website and physical stores have found an alternate shipping method, called site-to-store or order online pick up in-store. This method allows both consumers and retailers to save on shipping charges by using the established brick-and-mortar supply chain to efficiently deliver the products to a physical store. The customer can then pick up the product from the store. Although site-to-store is attractive for retailers, consumers must compare the cost savings of no shipping fees against the inconvenience of travelling to a store to pick up an item. Most research in online shopping has either focused on the direct method or describes the advantages and challenges of site-to-store without exploring how consumers perceive the two when both options are available.

In 1997, Alba and Lynch authored one of the early articles to capture the positive aspects of this new online channel of retail in “Interactive Home Shopping: Consumer, Retailer, and Manufacturer Incentives to Participate in Electronic Marketplaces.” Much

like the in-store pick-up option today, Alba et al suggested that this new online channel must provide incentives that make it superior to normal retail channel interactions before customers would be willing to adopt it. They describe a new channel called IHS (interactive home shopping) that is essentially an upgrade to the Internet retail channels that were available at the time of the paper. This HIS channel allowed for immediate feedback, quick comparison among products, and a dialogue between customers and vendors (Alba and Lynch, 1997). Finally, they assert that online retail channels could ultimately lead to manufacturers leaving behind the retailers and selling directly to consumers. While this has indeed happened in the years since the article was published, retailers are still the dominant force in online shopping.

Multichannel Retailers

Early research in online shopping focused on the implications for multichannel retailers, who now had a broader potential customer base. Steinfield et al (2002) identify the primary cost-based reasons for brick-and-mortar stores to move into the online retail space. They focus on cost savings through efficiencies in the already existing supply chain network. Companies can also lower their inventories in the physical stores while offering a wider variety of goods online. Therefore, the company can still sell those goods without incurring the associated holding costs. Market extension is another benefit to multichannel retailing outlined in this article (Steinfield et al, 2002). Businesses who add an online retail channel use it to attract both former customers who have moved away from the physical store locations as well as new customers. Essentially, the article provides a basic understanding of the reasons for and advantages of online retailing.

Similarly, Jie et al (2010) cover the basic advantages and possible synergies of multichannel retailing, but this article also examines the challenges presented by this new way of retail. They suggest that multiple channels increases operational complexity, which must be addressed in order for the business to run smoothly. Some companies believe online offerings could affect their brand image. For example, a luxury brand may feel that a website cheapens their image, so they would rather just offer the products in-store. Organizational structure, data integration, consumer analytics, and performance metrics also pose challenges to multichannel retailing.

Due to increased complexity, Jie et al view organizational structure as the greatest challenge to multichannel retailers (2010, p. 171). A majority of firms venturing into the online retail space have formed decentralized structures for the online retail component of the business. Even Walmart, which is generally characterized as heavily centralized, located its online department in California to give it greater autonomy from its headquarters in Bentonville, Arkansas. However, now the trend is for firms to adopt a "semi-integrated" structure in which the online channel retains some autonomy, but a greater emphasis is placed on creating channel synergies to add value (Jie et al, 2010, p. 172).

Although companies have many different ideas as to how centralized or independent organizational structures should be set up, almost all agree that it is imperative to have an integrated information storage system so that all data across channels can be shared and analyzed from a complete organizational perspective (Jie et al, 2010). It is important not only to gather this information together in one centralized

data storage system, but it is equally important to be able to extract useful information from the data in order to get something out of it.

Consumer analytics, another challenge to multichannel retailing, can lead to a better understanding of consumer behavior, satisfaction, and loyalty. Consumers are now able to access product information easier than ever before, so it is important to know how they process this information. However, online shoppers are also growing skeptical of all the data being collected for consumer analytics by companies engaging in multichannel retail. They have two primary concerns regarding this data collection: privacy and security (Jie et al, 2010). And consumers certainly have room for concern in this matter. Private information collected by companies is being hacked at an alarming rate. Companies need to consider strong security measures for this information, and in turn they should announce their security measures to those they collect data. However, it is unclear just how much of an impact this would have on consumer behavior.

Finally, Jie et al state that there "is a pressing need to develop and implement formal performance metrics that take into account the idiosyncratic nature of each channel and cross-channel effects of any retail mix decisions, and motivate multichannel collaboration" (2010, p. 173). Without solid performance metrics, how can a retailer know just how much value an additional channel is actually providing the company? A problem in this area is that the commonly accepted metrics, such as same-store sales, do not translate well to online retail. They suggest that new metrics are needed in order to get an accurate assessment of the success of an online retail channel.

Pricing Strategies

More recent research concerns more detailed implications of online retailing including pricing strategies. These strategies for online retailers typically pertain to how to advertise or manage shipping fees. This research categorizes the options into two strategies, price partitioning, also known as unbundled pricing, and bundled pricing. Bundled pricing is the strategy that companies use when they wish to include fees like shipping costs into the total price of the item. Instead of a base item price and a shipping fee, the bundled price would just be the total. But unbundling or price partitioning is the practice of splitting up the total cost of an item among several fees. This is one of the online retail strategies that has been explored by several researchers, including Gümüş et al (2013). Online retailers implement this strategy when they feel the smaller base item price will attract more customers. However, research suggests that consumers tend to avoid additional fees (Gümüs et al 2013). Moreover, there is some psychological benefit to seeing the word "free." Put another way, consumers put more value in a particular cost reducing from $1 to $0 than from $2 to $1, even though they afford the same savings. This phenomenon has been deemed the *zero price effect* (Gümüş et al 2013). Therefore, consumers may be more likely to purchase an item for a greater base product price if some other cost like shipping is free. Online retailers can use this as a strategy to get consumers to elect site-to-store shipping in order to get the consumer in the store to potentially purchase more products.

A similar line of research by Schindler et al (2005) looks deeper into consumers' preference to avoid shipping costs. Many consumers have the perception that additional shipping and handling charges are just a way for the firm to make more money.

Researchers call this *shipping-charge skepticism*. Consumers apply this perception to online shopping because a common practice in "As-Seen-On-TV" products is to charge unrealistic shipping and handling fees to increase profit. This skepticism may give consumers another reason to choose in-store pickup if it is an option during online shopping. Among their findings in the study, they found that "when there is no external reference price provided, price format has no impact on liking of the offer among shipping-charge skeptics and non-skeptics" (Schindler et al 2005, p. 48). However, they found that when external price references are available, skeptics and non-skeptics behave differently. The shipping-charge skeptics seem to prefer the bundled or partitioned offer. Conversely, non-shipping-charge skeptics prefer the unbundled offer. (Schindler et al, 2005). This research by Schindler et al (2005) was primarily a further exploration of the findings by Morowitz et al (1998) as they attempted to find empirical evidence to support why consumers seemed more willing to buy price-partitioned products.

In 2010, Junhong et al published "An Empirical Analysis of Shopping Behavior Across Online and Offline Channels for Grocery Products: The Moderating Effects of Household and Product Characteristics." They collected data from a grocery store chain in Spain that had both retail locations and an online channel. The research showed empirical evidence that the online shoppers at this grocery chain were "more brand loyal, more size loyal and less price sensitive in the online channel than in the offline channel" (Junhong et al, 2010, p. 265).

Other research in shipping price strategies considers threshold-based free shipping. This shipping fee structure is set up so that once a customer passes a certain dollar amount, or threshold, in his or her total purchase, the shipping cost on that

purchase is free (Koukova et al, 2012). This threshold varies from company to company; some set it at $25 and others at $100 or even more. While consumers are attracted to the idea of free shipping, they are also concerned that the shipping fee under the threshold in a threshold-based free shipping method is simply a profit generator (Koukova et al. 2012). However, consumers are also swayed by justifications for the shipping fee. If a company outlines the reasoning behind the fee, this fear of getting ripped-off by paying extra for shipping is mitigated (Koukova et al, 2012).

Other Factors

However, price is not the only factor to consider in the online retail space. There are also non-monetary factors that consumers consider when purchasing online. Gupta and Kim (2010) examine the role and effect of value in Internet shopping using the mental accounting theory. The mental accounting theory suggests that shoppers do not only consider item price in purchasing decisions, but rather they look at a variety of components that comprise the whole transaction process. Online retailers have spent a considerable amount of resources determining how low to price their online product offerings. However, this research indicates that other factors can add value and influence consumer decisions. Non-monetary factors, "such as time and effort savings (convenience) as well as risk and uncertainty (perceived risk)" play a factor in online purchasing decisions (Gupta and Kim 2010). They use mental accounting theory, where total value of an online purchase is made up of both acquisition and transaction utility, to explain their findings (Gupta and Kim 2010). Gupta and Kim (2010) also observe a change from previous research in their findings: the perceived risk in online shopping was no longer a determining factor in purchasing decisions. This is inconsistent with

previous research, suggesting that perhaps consumers are getting used to online shopping to the extent that they no longer perceive the risk to be high. Ha, Hyun and Pae (2006) also use the mental accounting theory in an effort to explain how customers react to changes in price. This may prove useful in observing price changes between site-to-store and direct online shipping channels.

A new emerging theme in online shopping research explores consumer behaviors and challenges considering site-to-store shipping. Chatterjee (2010) suggests that consumers will choose channels that will lower overall cognitive, monetary, time, and effort costs at each stage of the purchase process. Therefore, price is not the only factor when considering which channel to use. Retailers that offer order online pick up in store (OOPS or site-to-store) do so in the attempt to provide consumers with minimization of perceived effort. This channel "allows consumers to reduce search effort online and avoid the financial cost associated with having the product shipped" (Chatterjee 2010). Therefore, consumers who perceive shipping costs to be greater than the effort costs of driving to the store will choose OOPS. Chatterjee (2010) also showed a connection between OOPS and additional sales. This indicates that shoppers who use the in-store pick up option also browse through the store and purchase additional products. This research suggests that retailers who offer this online channel can increase their store sales as well. This may curb some of the fear of online sales cannibalization.

Fagerstrøm and Guinea (2011) have also researched the impact of price in online shopping. The implications their results give are that online retailers should be aware that online recommendations are not as influential as a good offer when consumers purchase electronics online. However, other customer recommendations have a stronger impact on

novice online shoppers than towards those consumers that shop more frequently online (2011).

In "Drivers and Technology-Related Obstacles in Moving to Multichannel Retailing," Lewis, Whysall, and Foster explain in detail the drivers of multichannel retailing (2014). They place changing consumer behaviors at the forefront of this movement. Shoppers now prefer to gather information online before making a purchase either online or in a store. This has prompted brick and mortar stores to develop online sites where consumers can view product information and prices (2014). Price comparison is one of the main functions consumers use this online shopping information. It is far more convenient to gather pricing information through the Internet than to physically go to retail stores. Lewis, Whysall, and Foster posit that more and more consumers are becoming multichannel shoppers, willing to use online and mobile channels for information and then make a final purchase in a physical store (2014). With this information, it seems logical that online retailers would provide a site-to-store option for these customers.

Postponement

In a recent article, Mahar and Wright (2009) suggest some ways that multichannel retailers can improve efficiencies when dealing with online orders. While pertaining to direct online shipping, the strategy the pose can be used in a site-to-store setting. They suggest a mix of two previous strategies to form a new strategy called *quasi-dynamic*. The idea behind this strategy is to use efficiencies in economies of density as well as the utility to the customer of shipping quickly. In a quasi-dynamic strategy, online orders can be accumulated before being assigned to a fulfillment center. These orders are filled later

in order to achieve cost savings, which Mahar and Wright (2009) show to be about a 23% reduction in fulfillment center costs. The biggest drawback from this policy is that the customer receives the order later. Online retailers have to understand the tradeoff between cost savings and faster delivery in order to determine if this strategy is right for them. Retailers can also use an application of this strategy for site-to-store shipping. These retailers can elect to only provide the site-to-store option at strategic stores, therefore allowing the orders to accumulate faster at those fewer stores versus spread out over an entire retail chain's physical stores. Quicker accumulation would mean that orders could be fulfilled with greater cost savings to the retailer.

Return Policies

Another topic of research for online shopping is how return policies affect consumer behaviors. Mollenkopf et al (2007) suggest that product returns are one of the biggest challenges to online retailers. They also suggest that service is key to the e-tailing industry, and product return policies are a large component of service. Instead of the typical race-to-the-bottom pricing wars that online retail companies wage against each other, it would be more beneficial to focus on something like customer service. Mollenkopf et al used a survey of 464 participants from five online retailers, each with annual online sales exceeding $50 million, to explore how important return policies were to consumers. They found that "an increase in the quality of recovery that a customer experiences when returning a purchase to an Internet retailer is linked to improvement in customer perception of the value of the return offering and in customer return satisfaction" (Mollenkopf et al, 2007). Clearly, online retailers need to place a large emphasis on their product returns policies.

The research performed by Mollenkopf et al is later cited by Bower and Maxham III (2012), who look at the consequences of return policies that varied based on whether the consumer was at fault for the returned product. They concluded "neither the positive consequences of free returns nor the negative consequences of fee returns were reversed when customer perceptions of fairness were taken into account" (Bower and Maxham III, 2012). They found that return policies that charged a fee resulted in far less spending. To be specific, it resulted in a decrease of somewhere between 74.84% and 100% (Bower and Maxham III, 2012). Overall, they recommend that online retailers should strongly consider free returns.

Convenient and lenient return policies that help the consumer are expensive to firms, so companies would like to avoid them. However, strict return policies are disliked among consumers and may actually prevent a purchase from that particular website. Given these tradeoffs, companies have a wide variety of return policies for online shipping that coincide with their key interests and marketing strategies.

In "Remote Purchase Environments: The Influence of Return Policy Leniency on Two-Stage Decision Processes," Stacy Wood explores how return policies can affect "remote shopping" decisions (2001, p. 157). By remote shopping, Woods is referring to any type of shopping decision made outside of a brick-and-mortar store. This includes the Internet, but additionally takes into consideration both shopping by catalogue and by television home shopping. Wood sets up her experiments by comparing a "lenient" return policy and a "strict" return policy. The lenient policy is more advantageous to the consumer, but is perceived by firms as more costly because they assume that more lenient return policies will result in more frequent product returns. According to Wood,

"Consumers obviously value return policies that are lenient in terms of how long products may be returned after purchase, whether returns are questioned or not, whether cash or store credit is given, and whether sale items can be returned" (2001, p. 157). Through her research, Wood demonstrates that managerial fears of increased product returns do to a lenient product return policy. In fact, the results suggest that a lenient product return policy can lead to an increased number of orders with no significant increase in the number of product returns (Wood, 2001). This suggests that lenient return policies actually help the company as well. These results only apply to remote shopping, not typical brick-and-mortar shopping (Wood, 2001).

Product return concerns are certainly valid, as retailers lose around $100 billion per year in lost sales due to product returns (Maity & Arnold, 2013). In the article "Search: An Expense or an Experience? Exploring the Influence of Search on Product Return Intentions," Maity and Arnold explore how consumers view the product searching process and the impact of that perception on product returns (2013). As the title of the article suggests, some consumers view shopping as an experience, while others view it as an expense. Search as expense is the typical marketing approach that has been established for years. It outlines all of the time, effort, and money that go into searching for a product. Search as an experience is defined as a "leisure activity that offers enjoyment and escape" (Maity & Arnold, 2013, p. 579). They argue that search effort may negatively affect a consumer's desire to return a product. Instead of viewing the effort as a sunk cost, Maity and Arnold believe that the search effort will play a role in the decision whether or not to return an item. However, if the search is viewed as an experience, this effect will be reduced (Maity & Arnold, 2013). The experiments showed

that "search as an expense is positively related to a consumer's product return intentions," meaning that consumers who view the searching process as an expense are more likely to return the product (Maity & Arnold, 2013, p. 582). While the mindset of "search as an experience" did not have a significant impact on product return intentions, the authors found that it did have a positive effect on product satisfaction (Maity & Arnold, 2013).

Anderson, Hansen, and Simester continue this line of research in their article, "The Option Value of Returns: Theory and Empirical Evidence" (2009). They address the fact that free product returns provides both costs that must be borne by the retailer and the potential for additional revenue through additional purchases due to increased customer satisfaction. They attempt to develop a model that online retailers can use to determine what return policy would be best for them. For their study, they used apparel as the product category. While they do not suggest a specific return policy for all item categories, the structural model that they proposed in the article suggests that offering free returns can increase demand for women's apparel (Anderson, Hansen, and Simester, 2012).

What has not been researched, however, is a comparison of consumer preferences between direct shipping and site-to-store shipping in online retail. If consumer preferences were understood in this manner, retailers could then use that information to refine their online shipping options and pricing strategies. My primary research goals and hypotheses are listed below.

RESEARCH QUESTIONS

1. What is the convenience value, in dollars, between direct shipping and in-store pick-up?

2. Does the product type affect the shipping method decision?
3. Does the price of the item affect the shipping method decision?
4. Do any demographics, such as age, gender, income, or place of residence, affect shipping choice?

HYPOTHESES

Hypothesis 1: Product category will have an impact on shipping choice.

Hypothesis 2: There is a relationship between item price and shipping choice.

Hypothesis 3: There is a relationship between gender and shipping choice.

Hypothesis 4: There is a positive relationship between product cost and satisfaction for the direct shipping option.

Hypothesis 5: The cost of direct shipping that it would take to flip a customer to the in-store pick-up option will increase as item price increases.

Hypothesis 6: There is a relationship between income and shipping choice

Hypothesis 7: There is a relationship between age and shipping choice

Hypothesis 8: There is a relationship between residential location and shipping choice.

METHODOLOGY

To conduct my research, I developed a survey through Qualtrics and recruited participants online through Amazon Mechanical Turk (M-Turk). M-Turk is a site owned and operated by Amazon.com where people can get paid a small monetary amount to complete various tasks. Essentially, it is a marketplace to match recruiters and participants for small tasks and surveys. The participants in this study are all online shoppers 18 years and older exclusively in the United States. The participants received a small monetary benefit of $0.15 for completing the study, which is about the average rate

for similar tasks on Amazon Mechanical Turk. A total of 200 individuals participated in the experiment.

The research was conducted through six variations of the same basic survey, and each participant only received one version. The various survey versions included two product types and three price levels. This made it possible to measure both how consumers react to different prices and how they behave with different types of products. Electronics comprised the first product category, which is one of the largest sectors of online shopping. Fashion or apparel was the second product type. Both product categories had variations of the survey where the base item price is $20, $75, and $250. Throughout the paper, these price levels are listed as low, medium, and high, respectively.

One restriction that was implemented in the study was the exclusive use of participants in the United States. People from other countries may have different perceptions of online shopping and different shipping methods, or may not have access to these methods at all. To limit exposure to people who did not understand how these shipping methods work, I chose to only accept participants living in the United States. As a check, Qualtrics records each participant's IP address. All of the IP addresses for the 200 participants were inside the United States.

Each participant was given one of these six scenarios and was asked to choose between the direct shipping method and in-store pick up method. The shipping price of the direct method was constant at $5.00 regardless of the item category or the price. The in-store pick up shipping method was always free. These figures are based on the shipping prices of Walmart.com in order to reflect a large retailer's current shipping price strategy and therefore a realistic online shopping scenario. It is important to note that

many retailers with an online channel now include free direct shipping on orders over a certain amount of money, usually either $25 or $50. However, in order to keep the number of considered variables as low as possible, the decision was made to make the cost of direct shipping a flat rate that is still consistent with several online retail companies.

Another important element of the experiment design pertains to shipping times. In order to remove variables from the experiment, shipping times were held constant at two days for both methods. This is certainly not always the case, and generally online shoppers can select a variety of shipping options for different rates, but the two day lead time for both methods kept the delivery time out of the equation for the participants. This allowed participants to focus their attention on the tradeoffs between price and convenience for the two methods, which is consistent with my primary research goal.

A final critical design element pertains to item returns. There are a myriad of return policies in online shopping for both direct shipping and site-to-store methods. However, I did not want return policies as a consideration for the participants. I wanted them to focus specifically on the price and convenience tradeoff between direct shipping and site-to-store. Of course, it can be argued that return policies could have a significant impact on the perceived convenience value of one shipping option over another. But I wanted to focus on the specific convenience of receiving a package at home versus going to the store, not the convenience of returning an item one way or another. For this reason of convenience and price specificity, I chose to keep return policies out of the survey instructions. It is possible that the participants will still have biases towards one shipping

method or the other based on experience with return policies, but that could not be avoided no matter how the survey was phrased.

An empirical analysis of the data from the study shows how consumers react to online shipping options. Since multiple product categories and price levels were used in the study as well, we can observe differences, if any, between preferences based on item price or product category.

DATA AND RESULTS

The survey was posted on Amazon Mechanical Turk in February 2015, and 209 responses were collected within a few days. However, nine of these survey responses were discarded due to either incomplete responses or a participant attempted to complete multiple surveys. Once the participants finished the survey, they were given a randomized number to input on M-Turk as validation in order for payment. The survey was posted twice on M-Turk, with 61 accepted responses on the first posting and the final 131 responses on the latter. It took about an hour to get those final 131 participants, most likely due to the massive winter weather storm system that affected a large portion of the United States at the time.

Of the 200 participants, 120 (60.61%) were male, 78 (39.39%) were female, and 2 did not respond to this question. Only those in the United States could take the survey, as people from other countries might have different expectations about shipping options and shipping prices. The participants of the survey represented thirty-nine states. States with the largest number of participants included California, Florida, and Texas.

Testing the Hypotheses

To begin my analysis of the data, I looked to the first question of the survey: "Which shipping method did you choose?" Out of the 200 participants, 87 (43.5%) chose the direct shipping option and 113 (56.5%) chose the in-store pick-up option. This relatively even split between the options meant that there would be enough data for both options to do the rest of the analysis. If an overwhelming majority of the participants had chosen one option over the other, there would not be a big enough sample size to perform any meaningful analysis on the other shipping option.

To test Hypothesis 1, I grouped shipping choice data by product category. Then, I recorded the percentages of those who chose direct and in-store pick-up for both the electronic and apparel product category. For the electronic category, participants chose the in-store option 57.55% of the time and direct shipping 42.45% of the time. The apparel category had similar results, with in-store pick-up as the preferred method 55.32% of the time. It would already appear that there is not much difference between product categories, but a Mann-Whitney U-test confirmed that, statistically, there is no difference between the product categories. This test rejects Hypothesis 1. Therefore, there is no significant relationship between product category and shipping price. This means that the product categories can be grouped together for further analysis. As a note, all of the statistical tests, including the Mann-Whitney U-test and the Chi Square tests, will be included in the Appendix.

For Hypothesis 2, I grouped the data by item price. Then, I compared the shipping choice data between the prices. Figure 1 below shows the shipping choice preferences at each item price.

Figure 1: Shipping Choice By Item Price

In this figure, "Low" equates to both items that cost $20, "Medium" represents both items that cost $75, and "High" represents both items that cost $250. The chart shows a stark difference between shipping choice preference for the "Low" item price category versus the "Medium" and "High" item price categories. However, to test Hypothesis 2, a Chi-Square test is required. The Chi-Square test revealed that there is a difference between shipping choices at various prices, (X^2 (2, N= 200) = 10.40, p< 0.001). Looking at the shipping choice within product price categories, it appears that when price in "Medium" or "High", consumers are evenly split between shipping options. However when price is "Low", there is a strong preference for in-store pick-up. Therefore, the Chi-Square test allows us to accept Hypothesis 2.

Next, I grouped the data by the gender of the participants to test Hypothesis 3. To begin this section of my analysis, I began looking at what choices men and women made in the survey. However, there were no virtually no differences between the genders. Men chose the direct shipping option 43.33% of the time compared to women at 43.59%.

These are close enough to be within the margin of error. Nevertheless, I performed a Chi-Square test on the data to confirm. The p-value was 0.972, which means there is not a statistically significant relationship between gender and shipping choice. Therefore, Hypothesis 3 is rejected.

I also checked to see if the shipping price to flip options would be different between men and women. Again, they were practically the same. The average shipping price for women to switch from in-store pick-up was $0.69, while for men the average was $0.68. Similarly, women chose an average $9.63 to switch from direct shipping to in-store pick-up, while men would pay a slightly less at an average flip price of $9.29. Again, this difference is small enough to not be significant. Therefore, my study suggests that men and women have very similar online shopping behaviors.

One of the more interesting findings from this study came from the shipping price-to-flip data. Participants provided, to the nearest dollar, the amount that direct shipping option would have to be before they switched to the alternative, the in-store pick-up method. Those who chose the direct option were asked how high the shipping price could be before flipping to in-store pick-up. Those who chose the in-store option were asked how low direct shipping would have to be before switching to direct shipping. For all six scenarios, the average shipping price for flipping from direct shipping to in-store pick-up was $9.37. The average shipping price for flipping from in-store pick-up to direct shipping was $0.68. However, we can gain more insight into these consumer preferences by looking at the shipping price frequency than by these simple averages.

For both shipping options, I tallied how much each dollar value was selected, and then created histograms to show the frequency of the price selections. These histograms

can be seen in the Appendix. The most intriguing finding here was that participants overwhelmingly chose a $10.00 price point for shipping direct before they would switch to in-store pick-up. For all six scenarios, the $10.00 price point was selected 34 times out of 86 submissions (39.53%). Moreover, participants chose the $10.00 price point more than any other choice for all six scenarios, regardless of item price or product category. Even for the lowest priced items, the Blu-ray and the hat, 41.2% those who had chosen the direct shipping option would pay up to $10.00 before switching to in-store pick-up. Hypothesis 5 stated that the cost of direct shipping that it would take to flip a customer to the in-store pick-up option would increase as item price increases. However, the data shows that to be false. The $10.00 price point holds constant regardless of item price. Therefore, Hypothesis 5 is rejected.

The participants who originally chose in-store pick-up for their scenario also appear to have strong price preferences before switching to direct shipping. For 69 out of 113 responses (61.06%), the direct shipping price would have to be free before they would switch to the direct shipping option. This data indicates that these consumers expect free shipping no matter the item price. However, there was a small, yet noticeable, difference in the shipping price by item category. The free option was picked 65.57% of the time when the item was electronic, but only 55.77% of the time when the item was an apparel item. Again, this is a small difference, and both statistics indicate that those who chose in-store pick-up would only change their minds if the direct shipping option were free.

These statistics seem to indicate that consumers are divided between the convenience shoppers and those who want to save money or expect shipping to be free.

Those who chose the direct shipping option would rather pay around $10.00 in shipping fees, even for a $20 hat, than have to physically drive to a store to get the item. On the other hand, those who chose the in-store pick-up option would generally have to have a free direct shipping option before they would switch. This means that the retailer in this example would have to drastically change the direct shipping price, by five dollars either way (to make direct shipping either free or $10.00 for all items), to get the majority of online shoppers to switch into the desired category. However, this drastic change in price could have serious consequences on consumer satisfaction. Therefore, the next step in this analysis is to observe the shipping option satisfaction data.

After participants answered questions on what shipping option they would choose and how much would the shipping price have to be for them to flip to the other option, they answered a series of questions about how satisfied they were with the options presented to them in the scenario. On a scale of one to seven, with one being "Completely Unsatisfied" and seven being "Completely Satisfied," the participants provided answers for how satisfied they were with the shipping choices. They gave the direct shipping option an average of 4.675 and the in-store shipping option a 5.465. These satisfaction ratings are in accord with shipping choice preference (43.5% for direct and 56.5% for in-store pick-up) in that the in-store pick-up option consistently scored higher for both metrics. This higher satisfaction rating for the in-store pick-up option holds true for all six scenarios. Figure 2 below shows participant satisfaction with the shipping options available for each item in the study.

	Both Options	Direct	In-Store
Bluray	4.26	3.71	5.37
Hat	4.14	4.07	5.25
Speaker	4.71	4.61	5.18
Shirt	4.97	4.87	5.65
TV	5.55	5.48	5.85
Coat	5.29	5.26	5.51

Figure 2: Customer Satisfaction of Shipping Options By Item

Although in-store pick-up received a higher satisfaction rating in all of the scenarios, the price of the object seemed to have a material impact on the satisfaction rating for the direct shipping option. The $20.00 items had the lowest direct shipping satisfaction rating at an average of 3.87 out of 7. The $75.00 items scored an average of 4.72 satisfaction rating for its direct shipping option. And the "High" priced items, which cost $250 each, had a direct shipping option satisfaction rating of 5.37. This seems to indicate that consumers find the $5.00 shipping fee for the direct shipping option more reasonable as the price of the item increases. This would agree with Hypothesis 4.

However, in order to accept Hypothesis 4, I performed a Chi-Square test to confirm that the differences were statistically significant. The test revealed that at higher

levels of price, people were generally more satisfied (X^2 (8, N= 200) = 34.290, p< 0.001). It is important to note that, in order to conduct this test, the satisfaction categories had to be grouped together in a manner slightly different than what was posed in the original question to the participants. Specifically, Satisfaction levels 1 and 2 were combined to form a new Satisfaction level of 1. Satisfaction levels 6 and 7 were also combined to form a new Satisfaction level of 5. Because of the results from the Chi-Square test, Hypothesis 4 is accepted. It is possible that consumers base these satisfaction ratings on the percentage increase in total cost of the item in regards to shipping price. A $20 hat that suddenly costs $25 with shipping is a much bigger percentage increase than a $250 coat that now costs $255 with shipping.

On the other hand, the price of the item seems to have a negligible effect on the satisfaction rating of the in-store pick-up option. The $20, $75, and $250 price categories had average in-store pick-up satisfaction ratings of 5.32, 5.39, and 5.68, respectively. While there is a small increase in satisfaction as the item price increases, it does not make a significant statistical difference.

The satisfaction ratings were also compared between product categories, electronic and apparel, but there were no significant differences between the two. The apparel section had a higher satisfaction rating, only by a few hundredths of a point, in each of the satisfaction questions.

Demographic information such as living environment was also recorded in the study. Participants sorted themselves into either an urban, suburban, or rural environment. The participants that live in urban and rural environments were almost identical in their shipping choice preferences. Those from urban environments chose in-

store pick-up 51.67% of the time, and those from rural environments were almost identical in that they favored in-store pick-up 51.43% of the time. However, the participants from suburban areas were much more likely to elect in-store pick-up over direct shipping. These participants chose in-store pick-up 61.17% of the time. On its face, there seems to be something different about consumers in the suburban category that apushes them towards the in-store pick-up option more than the direct shipping option. A Chi-Square test revealed that there was no significant, statistical difference between shipping choice preference at the different living environments.

To further investigate, I wanted to see how much more the direct shipping price would have to be before the suburban participants who chose direct shipping would flip to the in-store pick-up option. I expected these participants to have a lower average shipping price to flip to the other option, because that would indicate that they were more willing to choose in-store pick-up. However, the data showed that these suburban participants were virtually identical to the rest of the sample population who initially chose direct shipping. The average direct shipping price it would take to flip the suburban population was $9.31, which is very close to the overall average flip to in-store pick-up price of $9.37

Income is the next demographic category to analyze. The survey originally had participants place themselves into one of six income brackets, but some of those brackets had to be consolidated for proper data analysis. For example, the highest income bracket, $150,000 and over, only had three participants. Obviously, three is too small for an entire category, so the brackets were consolidated into four new categories. The most interesting statistic from these new income brackets was that participants from the new

highest bracket, $75,000 and over, selected the free in-store pick-up option more than any other income bracket. While this bracket chose in-store pick-up over direct shipping 31 (63.27%) to 18 (36.73%), participants in the "Under $25,000" bracket only selected in-store pick-up over direct shipping 24 (54.55%) to 20 (45.45%). This seems illogical; those with more disposable income should elect the convenient, yet more expensive, shipping option versus those with less disposable income. However, these results seem to indicate that those making more money are also thrifty consumers. Figure 3 below shows shipping choice data at the consolidated income levels.

Figure 3: Shipping Choice At Various Income Levels

A Chi-Square test was performed to test Hypothesis 6. This test was performed to show if there was a statistical difference between income levels in regards to shipping choice preference. The Chi-Square test revealed that there was no statistical difference between shipping choice preferences at different income levels. Therefore, Hypothesis 6 is rejected.

Age was another demographic factor that I tested in this study. Specifically, I wanted to know if age had an impact on shipping choice, as is stated in Hypothesis 7. Much like my other tests, I began by grouping the data by age. In the survey, I provided age categories from which the participants could choose the range that best described him or her. The age categories were as follows: 18-29, 30-39, 40-49, 50-59, 60-69, 70-79, and 80-89. However, some of these age groups had to be consolidated for analysis. The four oldest age groups were consolidated into one to form a new 50 and over age group. With this new grouping, age did not appear to affect the shipping option preference of the participants. Figure 4 below shows the percentages for the consolidated age groups.

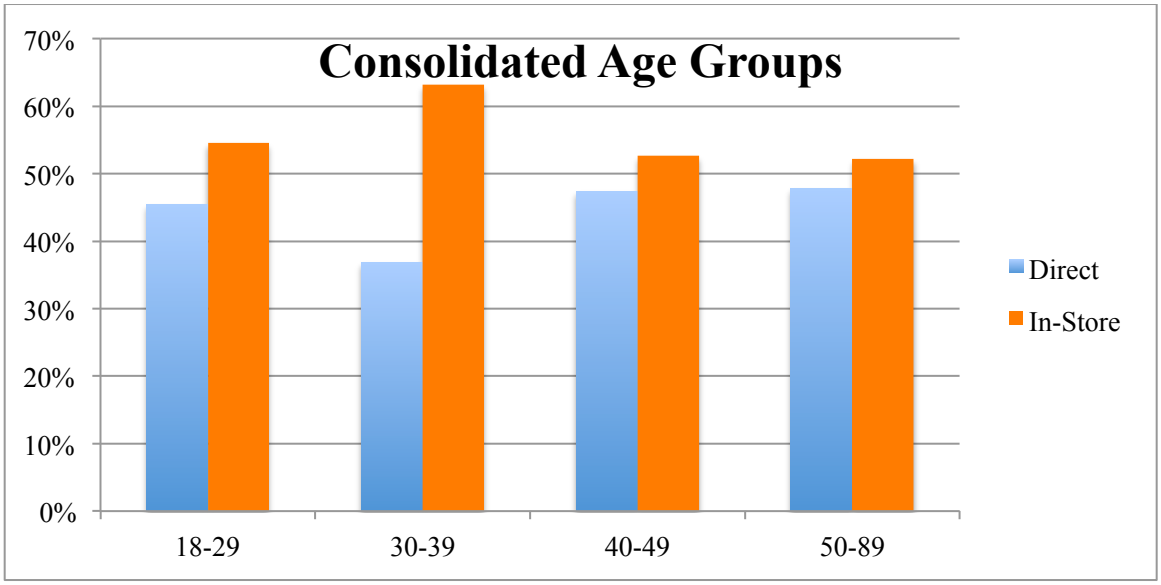


Figure 4: Shipping Choice Preferences By Age Group

This chart seems to indicate that there is not much difference between shipping choice across different age groups. However, a Chi-Square test was performed to prove whether or not there was a statistical difference. The test revealed that there was not a statistical difference between the age groups. This means that Hypothesis 7 was rejected.

Finally, Hypothesis 8 states that there is a relationship between residential location and shipping choice. In the survey, I asked participants to identify an option that best describes where they live. They could choose between rural, urban, and suburban living environments. Out of all 200 participants, 60 selected urban, 103 selected suburban, 35 selected rural, and 2 did not answer the question. Figure 5 below shows that the regions in which the participants live seem to have little to no impact on shipping choice.

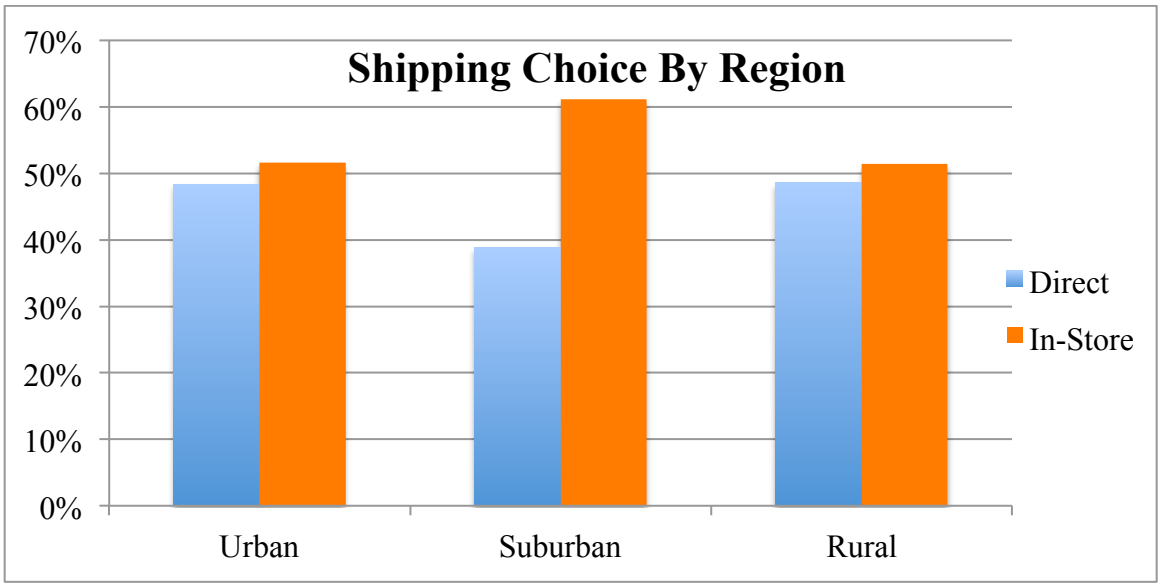


Figure 5: Shipping Choice By Region

While the graph indicates there is not much difference at these different regions, a Chi-Square test was used to confirm. When I conducted the Chi-Square test, it revealed that there was indeed no statistical difference between the regions regarding shipping choice. Because of this result, I can reject Hypothesis 8. The data does not show a relationship between region and shipping choice.

KEY FINDINGS AND IMPLICATIONS

The purpose of this study was to provide large retailers with some insight into consumer behaviors in online shopping. The hope is that those retailers will evaluate their online pricing strategies based on this research. Once again, the finding that stands out from this research is that $10.00 seems to be a universal direct shipping price where consumers will flip from direct shipping to in-store pick-up. Many who picked direct shipping generally would only flip to in-store pick-up if the shipping fee was $10.00.

Therefore, retailers that want to push customers towards in-store pick-up would need to raise direct shipping prices closer to $10.00, regardless of item. However, it is uncertain how consumers will react to such a high shipping price, but we can hypothesize based on the customer satisfaction data from this study that customers will be increasingly dissatisfied as the shipping price becomes a larger percentage of the total landed cost of the item. It is reasonable to suggest that some customers will simply buy from a different online retailer than choose the in-store pick-up option. Even if the customer does purchase the item, from our data we can expect a significant drop in satisfaction rating, which could make the customer less likely to purchase from the retailer again.

Study Limitations

The most apparent limitation in this study is the small sample size of only 200 participants. The sample size made it difficult to thoroughly examine the impact of several demographic variables on shipping option choice, including gender, and income level. This limitation was largely due to a financial restraint. The participants on M-Turk require compensation, so that limited the number of participants in this study. If this

experiment were to be repeated with a much larger sample size, one could expect to be able to extract more detailed consumer behavior tendencies from the data. As it stands, the experiment had enough participants to generate normal sample sizes for all six scenarios.

Additionally, the study did not address product returns, which are becoming an increasingly important part of ecommerce. The shipping choice consumers choose will dictate what return procedures they must go through, so additional research should go towards identifying this impact.

AREAS OF FUTURE RESEARCH

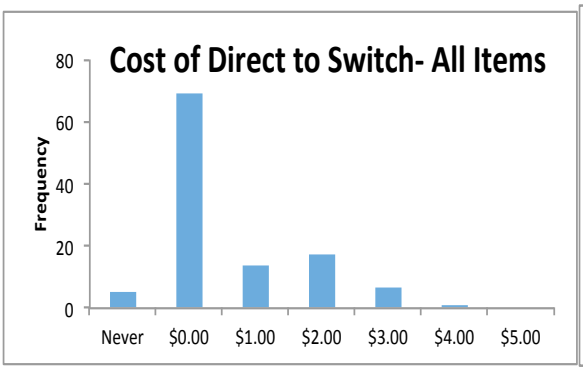
I believe another study, similar to this one, should test consumer preferences with a direct shipping price of $10.00. It would be interesting to see which option consumers choose at that option. It would also be interesting to see the new satisfaction ratings for the shipping options. An option should be included in the study that lets the participant choose to continue shopping online at other retailers instead of buying the product from this fake website if the participant determines that the shipping price is unreasonable. Any future study into this topic should also include more than 200 participants in order to drill down into multiple demographic segments. For example, there may be consumer differences between people of different incomes at different geographical regions, but my sample size was too small to explore these kinds of queries.

CONCLUSION

According to this research, it appears that consumers are already entrenched in regards to their shipping choice preferences. Those that favor the direct shipping option are willing to pay up to $10 on shipping before they would switch to the in-store pick-up

option. Likewise, those who prefer in-store pick-up will generally only switch to direct shipping if it is offered for free. This makes it difficult for large retailers to use pricing strategies to move customers to their preferred shipping method. Therefore, these large retailers need to explore other incentives to entice consumers to choose the method that they want. If we assume that retailers prefer that customers enter the store, then there must be another factor that will make in-store pick-up a better value than direct shipping. A few examples of incentives that might make in-store pick-up more desirable to consumers would be shorter lead times, easier and faster returns process, and even discounts towards other items in the store. The in-store pick-up option seems to be a favorite among large retailers, but they must continue to innovate in order to get consumers to adopt it as well.

APPENDIX


Cost of Direct to Switch- All Items
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40
20
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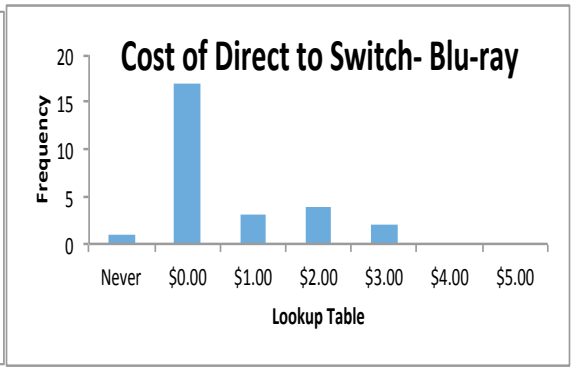
$1.00
$2.00
$3.00
$4.00
$5.00


Cost of Direct to Switch- Blu-ray
Frequency
20
15
10
5
0
Never
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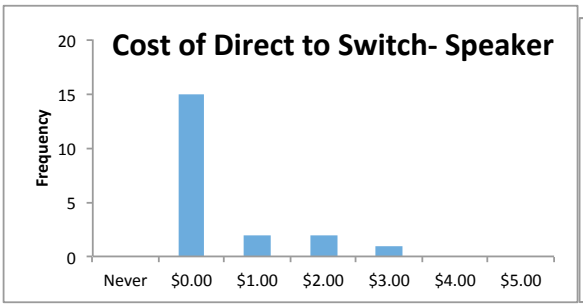
$1.00
$2.00
$3.00
$4.00
$5.00
Lookup Table


Cost of Direct to Switch- Speaker
Frequency
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15
10
5
0
Never
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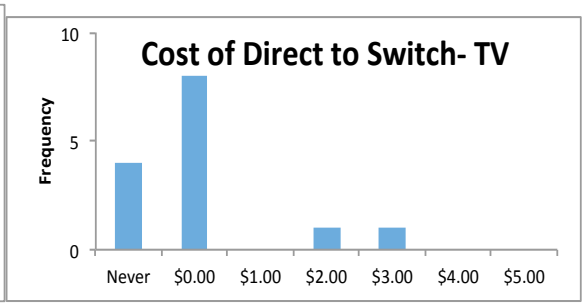
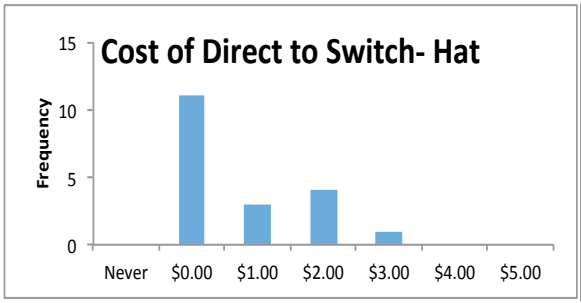
$1.00
$2.00
$3.00
$4.00
$5.00


Cost of Direct to Switch- TV
Frequency
10
5
0
Never
$0.00
$1.00
$2.00
$3.00
$4.00
$5.00


Cost of Direct to Switch- Hat
Frequency
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10
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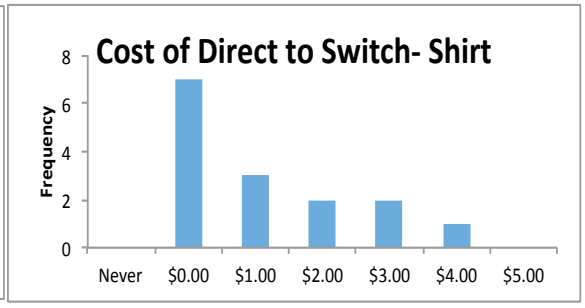
$1.00
$2.00
$3.00
$4.00
$5.00


Cost of Direct to Switch- Shirt
Frequency
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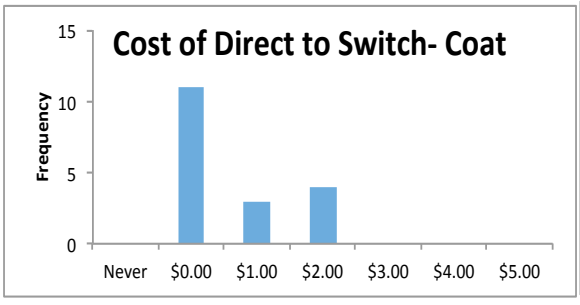
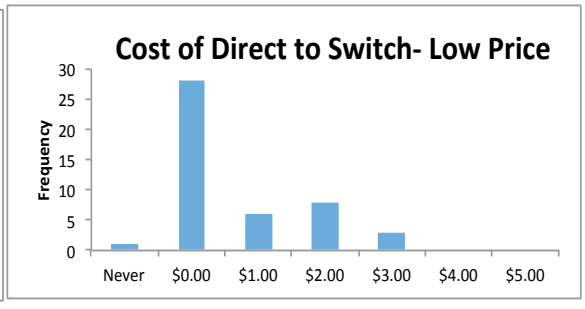
6
4
2
0
Never
$0.00
$1.00
$2.00
$3.00
$4.00
$5.00


Cost of Direct to Switch- Coat
Frequency
15
10
5
0
Never
$0.00
$1.00
$2.00
$3.00
$4.00
$5.00


Cost of Direct to Switch- Low Price
Frequency
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25
20
15
10
5
0
Never
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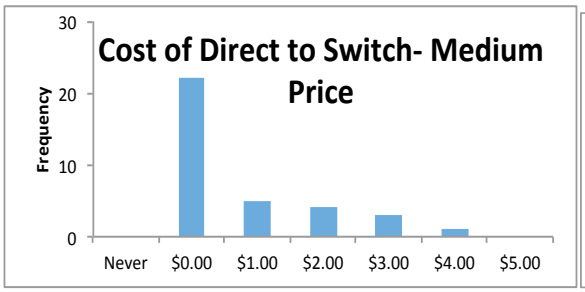
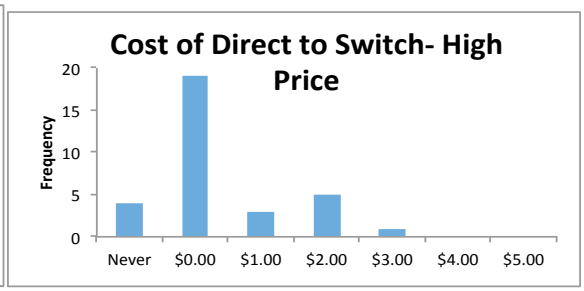
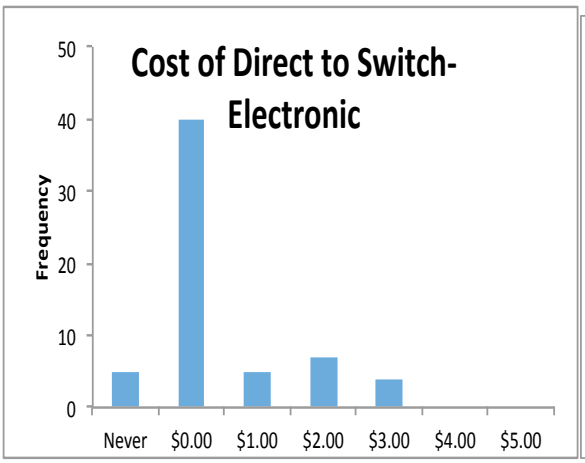
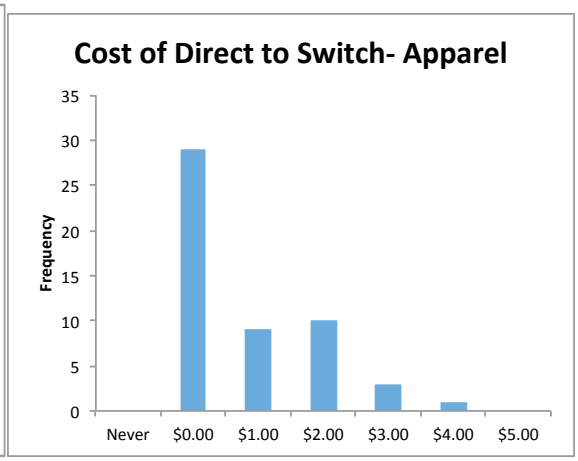
$1.00
$2.00
$3.00
$4.00
$5.00









Statistical Tests:

Shipping Choices 1 and 2 represent Direct Shipping and In-Store Pick-Up, respectively. Price levels 1, 2, and 3 represent Low ($20), Medium ($75), and High ($250), respectively. Product Categories 1 and 2 represent Electronic and Apparel, respectively. Sex categories 1 and 2 represent Male and Female, respectively.

1) Looking within High/Med/Low prices, is there a difference between product categories (Apparel/Electronics) in terms of shipping choice?

   The answer is no – there is no difference in product category in terms of shipping choice. Using a Mann-Whitney U-test, we fail to detect significant differences at any price level. Therefore, we can collapse the data across product categories going forward.

   Price level 1: U=444.5, p=0.413
   Price Level 2: U=564, p=0.728
   Price Level 3: U=525, p=0.461

NPar Tests

Descriptive Statistics

Price		N	Mean	Std. Deviation	Minimum	Maximum
1.0	Shipping Choice	63	1.730	.4474	1.0	2.0
	Product Category	63	1.444	.5009	1.0	2.0
2.0	Shipping Choice	69	1.507	.5036	1.0	2.0
	Product Category	69	1.449	.5011	1.0	2.0
3.0	Shipping Choice	68	1.471	.5028	1.0	2.0
	Product Category	68	1.515	.5035	1.0	2.0

Mann-Whitney Test

Ranks

Price		Product Category	N	Mean Rank	Sum of Ranks
1.0	Shipping Choice	1.0	35	33.30	1165.50
		2.0	28	30.38	850.50
		Total	63		
2.0	Shipping Choice	1.0	38	35.66	1355.00
		2.0	31	34.19	1060.00
		Total	69		
3.0	Shipping Choice	1.0	33	32.92	1086.50
		2.0	35	35.99	1259.50
		Total	68		

Test Statistics[a]

Price		Shipping Choice
1.0	Mann-Whitney U	444.500
	Wilcoxon W	850.500
	Z	-.819
	Asymp. Sig. (2-tailed)	.413
2.0	Mann-Whitney U	564.000
	Wilcoxon W	1060.000
	Z	-.348
	Asymp. Sig. (2-tailed)	.728
3.0	Mann-Whitney U	525.500
	Wilcoxon W	1086.500
	Z	-.738
	Asymp. Sig. (2-tailed)	.461

a. Grouping Variable: Product Category

2) Is there a relationship between Product Price and Shipping Choice?

Yes – There is a difference between Price and Shipping Choice, (X^2 (2, N= 200) = 10.40, p< 0.001). Looking at the shipping choice within product price categories, it appears that when price in medium or high, consumers are evenly split between shipping options. However when price is low, there is a strong preference for in-store pick-up over direct shipping.

Shipping Choice * Price Crosstabulation

			Price			
			1.0	2.0	3.0	Total
Shipping Choice	1.0	Count	17	34	36	87
		% within Shipping Choice	19.5%	39.1%	41.4%	100.0%
		% within Price	27.0%	49.3%	52.9%	43.5%
		% of Total	8.5%	17.0%	18.0%	43.5%
	2.0	Count	46	35	32	113
		% within Shipping Choice	40.7%	31.0%	28.3%	100.0%
		% within Price	73.0%	50.7%	47.1%	56.5%
		% of Total	23.0%	17.5%	16.0%	56.5%
Total		Count	63	69	68	200
		% within Shipping Choice	31.5%	34.5%	34.0%	100.0%
		% within Price	100.0%	100.0%	100.0%	100.0%
		% of Total	31.5%	34.5%	34.0%	100.0%

Shipping Choice by Price Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	10.395[a]	2	.006
Likelihood Ratio	10.726	2	.005
Linear-by-Linear Association	8.757	1	.003
N of Valid Cases	200		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 27.41.

3) Is there a relationship between Gender and Shipping Choice?

No – There is not, (X^2 (1, N= 198) = 0.001, p= 0.972).

Shipping Choice * Sex Crosstabulation

			Sex		
			1.0	2.0	Total
Shipping Choice	1.0	Count	52	34	86
		% within Shipping Choice	60.5%	39.5%	100.0%
		% within Sex	43.3%	43.6%	43.4%
		% of Total	26.3%	17.2%	43.4%
	2.0	Count	68	44	112
		% within Shipping Choice	60.7%	39.3%	100.0%
		% within Sex	56.7%	56.4%	56.6%
		% of Total	34.3%	22.2%	56.6%
Total		Count	120	78	198
		% within Shipping Choice	60.6%	39.4%	100.0%
		% within Sex	100.0%	100.0%	100.0%
		% of Total	60.6%	39.4%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.001[a]	1	.972		
Continuity Correction[b]	.000	1	1.000		
Likelihood Ratio	.001	1	.972		
Fisher's Exact Test				1.000	.544
Linear-by-Linear Association	.001	1	.972		
N of Valid Cases	198				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 33.88.

b. Computed only for a 2x2 table

4) Age and Shipping Choice

Is there a difference between age ranges and shipping choice?
No, there is not. (X^2 (3, N= 198) = 1.47, p= 0.689).
NOTE: I grouped age ranges 4 and above (from survey) into one category

Shipping Choice * Age Consolidated Crosstabulation

			Age Consolidated				
			1	2	3	4	Total
Shipping Choice	1.0	Count	45	21	9	11	86
		Expected Count	43.0	24.8	8.3	10.0	86.0
		% within Shipping Choice	52.3%	24.4%	10.5%	12.8%	100.0%
		% within Age Consolidated	45.5%	36.8%	47.4%	47.8%	43.4%
		% of Total	22.7%	10.6%	4.5%	5.6%	43.4%
	2.0	Count	54	36	10	12	112
		Expected Count	56.0	32.2	10.7	13.0	112.0
		% within Shipping Choice	48.2%	32.1%	8.9%	10.7%	100.0%
		% within Age Consolidated	54.5%	63.2%	52.6%	52.2%	56.6%
		% of Total	27.3%	18.2%	5.1%	6.1%	56.6%
Total		Count	99	57	19	23	198
		Expected Count	99.0	57.0	19.0	23.0	198.0
		% within Shipping Choice	50.0%	28.8%	9.6%	11.6%	100.0%
		% within Age Consolidated	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	50.0%	28.8%	9.6%	11.6%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1.473[a]	3	.689
Likelihood Ratio	1.486	3	.686
Linear-by-Linear Association	.012	1	.914
N of Valid Cases	198		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.25.

5) Income and Shipping Choice

Is there a difference between income level ranges and shipping choice?
No, there is not. (X^2 (4, N= 198) = 2.498, p= 0.645).
NOTE: I grouped age ranges 5 and above (from survey) into one category

Shipping Choice * Income Consolidated Crosstabulation

			Income Consolidated					
			1	2	3	4	5	Total
Shipping Choice	1.0	Count	20	26	22	11	7	86
		Expected Count	19.1	27.4	18.2	12.6	8.7	86.0
		% within Shipping Choice	23.3%	30.2%	25.6%	12.8%	8.1%	100.0%
		% within Income Consolidated	45.5%	41.3%	52.4%	37.9%	35.0%	43.4%
		% of Total	10.1%	13.1%	11.1%	5.6%	3.5%	43.4%
	2.0	Count	24	37	20	18	13	112
		Expected Count	24.9	35.6	23.8	16.4	11.3	112.0
		% within Shipping Choice	21.4%	33.0%	17.9%	16.1%	11.6%	100.0%
		% within Income Consolidated	54.5%	58.7%	47.6%	62.1%	65.0%	56.6%
		% of Total	12.1%	18.7%	10.1%	9.1%	6.6%	56.6%
Total		Count	44	63	42	29	20	198
		Expected Count	44.0	63.0	42.0	29.0	20.0	198.0
		% within Shipping Choice	22.2%	31.8%	21.2%	14.6%	10.1%	100.0%
		% within Income Consolidated	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	22.2%	31.8%	21.2%	14.6%	10.1%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	2.498[a]	4	.645
Likelihood Ratio	2.500	4	.645
Linear-by-Linear Association	.374	1	.541
N of Valid Cases	198		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.69.

6) Satisfaction and Item price
   a. Looking at those who chose the direct option, is satisfaction different at the various levels of price?

      Yes - (X^2 (8, N= 200) = 34.290, p< 0.001). It appears that at higher levels of price, people were generally more satisfied. (**NOTE:** I grouped those who indicated a satisfaction of 1 or 2 into a single group, and those who chose 6 or 7 into a single group).

Price * Sat Direct Consolidated Crosstabulation

			Sat Direct Consolidated					
			1	2	3	4	5	Total
Price	1.0	Count	20	6	10	14	13	63
		Expected Count	9.8	6.9	10.4	12.0	23.9	63.0
		% within Price	31.7%	9.5%	15.9%	22.2%	20.6%	100.0%
		% within Sat Direct Consolidated	64.5%	27.3%	30.3%	36.8%	17.1%	31.5%
		% of Total	10.0%	3.0%	5.0%	7.0%	6.5%	31.5%
	2.0	Count	6	13	11	14	25	69
		Expected Count	10.7	7.6	11.4	13.1	26.2	69.0
		% within Price	8.7%	18.8%	15.9%	20.3%	36.2%	100.0%
		% within Sat Direct Consolidated	19.4%	59.1%	33.3%	36.8%	32.9%	34.5%
		% of Total	3.0%	6.5%	5.5%	7.0%	12.5%	34.5%
	3.0	Count	5	3	12	10	38	68

	Expected Count	10.5	7.5	11.2	12.9	25.8	68.0
	% within Price	7.4%	4.4%	17.6%	14.7%	55.9%	100.0%
	% within Sat Direct Consolidated	16.1%	13.6%	36.4%	26.3%	50.0%	34.0%
	% of Total	2.5%	1.5%	6.0%	5.0%	19.0%	34.0%
Total	Count	31	22	33	38	76	200
	Expected Count	31.0	22.0	33.0	38.0	76.0	200.0
	% within Price	15.5%	11.0%	16.5%	19.0%	38.0%	100.0%
	% within Sat Direct Consolidated	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	15.5%	11.0%	16.5%	19.0%	38.0%	100.0%

Satisfaction and Price (Direct) Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	34.290[a]	8	.000
Likelihood Ratio	33.299	8	.000
Linear-by-Linear Association	20.526	1	.000
N of Valid Cases	200		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.93.

b. Looking at those who chose the store pick-up option, is satisfaction different at the various levels of price?

   No - (X^2 (8, N= 200) = 7.948, p=0.439). It appears that satisfaction does not differ at price level. (**NOTE:** I grouped those who indicated a satisfaction of 1 or 2 into a single group, and those who chose 6 or 7 into a single group).

Price * Sat In-store Consolidated Crosstabulation

			Sat In-store Consolidated					
			1	2	3	4	5	Total
Price	1.0	Count	3	4	9	15	32	63
		Expected Count	2.2	3.2	10.4	10.7	36.5	63.0
		% within Price	4.8%	6.3%	14.3%	23.8%	50.8%	100.0%
		% within Sat In-store Consolidated	42.9%	40.0%	27.3%	44.1%	27.6%	31.5%
		% of Total	1.5%	2.0%	4.5%	7.5%	16.0%	31.5%
	2.0	Count	4	3	12	10	40	69
		Expected Count	2.4	3.4	11.4	11.7	40.0	69.0
		% within Price	5.8%	4.3%	17.4%	14.5%	58.0%	100.0%
		% within Sat In-store Consolidated	57.1%	30.0%	36.4%	29.4%	34.5%	34.5%
		% of Total	2.0%	1.5%	6.0%	5.0%	20.0%	34.5%
	3.0	Count	0	3	12	9	44	68
		Expected Count	2.4	3.4	11.2	11.6	39.4	68.0
		% within Price	0.0%	4.4%	17.6%	13.2%	64.7%	100.0%
		% within Sat In-store Consolidated	0.0%	30.0%	36.4%	26.5%	37.9%	34.0%
		% of Total	0.0%	1.5%	6.0%	4.5%	22.0%	34.0%
Total		Count	7	10	33	34	116	200
		Expected Count	7.0	10.0	33.0	34.0	116.0	200.0
		% within Price	3.5%	5.0%	16.5%	17.0%	58.0%	100.0%
		% within Sat In-store Consolidated	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	3.5%	5.0%	16.5%	17.0%	58.0%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	7.948[a]	8	.439
Likelihood Ratio	9.994	8	.265
Linear-by-Linear Association	2.245	1	.134
N of Valid Cases	200		

a. 6 cells (40.0%) have expected count less than 5. The minimum expected count is 2.21.

7). Is there a difference in shipping choice by location, (Urban, Suburban, Rural)? No, there is not.

Shipping Choice * Rural Urban Crosstabulation

			Rural Urban			
			1.0	2.0	3.0	Total
Shipping Choice	1.0	Count	29	40	17	86
		Expected Count	26.1	44.7	15.2	86.0
		% within Shipping Choice	33.7%	46.5%	19.8%	100.0%
		% within Rural Urban	48.3%	38.8%	48.6%	43.4%
		% of Total	14.6%	20.2%	8.6%	43.4%
	2.0	Count	31	63	18	112
		Expected Count	33.9	58.3	19.8	112.0
		% within Shipping Choice	27.7%	56.3%	16.1%	100.0%
		% within Rural Urban	51.7%	61.2%	51.4%	56.6%
		% of Total	15.7%	31.8%	9.1%	56.6%
Total		Count	60	103	35	198
		Expected Count	60.0	103.0	35.0	198.0
		% within Shipping Choice	30.3%	52.0%	17.7%	100.0%
		% within Rural Urban	100.0%	100.0%	100.0%	100.0%
		% of Total	30.3%	52.0%	17.7%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1.849[a]	2	.397
Likelihood Ratio	1.851	2	.396
Linear-by-Linear Association	.057	1	.811
N of Valid Cases	198		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 15.20.

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