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In recent years, athletic shoe brands have increased production and sales of retro sneakers. Retro sneakers consist of popular styles from the 80s and 90s that are highly valued today, in 2013 (Void, 2013). With a dedicated customer market eager to purchase newly released retro sneakers, retailers often sell out of styles in minutes thus quickly creating a secondary market. This study gathers and analyzes completed sales data from the biggest secondary sneaker market, eBay. The findings of this study help to explain why the retro sneaker market is so popular and suggests that selling large shoe sizes, at a fixed price, close to a sneaker's release date will maximize seller revenue. The article's author has been an avid sneaker connoisseur for many years, and during this time, has completed hundreds of eBay transactions. To complete the study, the author leverages a combination of observed market behaviors and critical thinking.

#### Headings:

Electronic commerce -- eBay

Sneaker Culture

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Consumer Nostalgia

MAXIMIZING REVENUE SELLING RETRO SNEAKERS ON EBAY: A DATA  
DRIVEN APPROACH

by  
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## Introduction

It has become a custom for thousands of Americans nationwide. Every year around Christmas time, family and friends gather blankets, tents, lawn chairs, food, sleeping bags, and even blow up mattresses with the idea of camping out for the night. Frigid temperatures, precipitation, and even crowded grounds will not deter these loyal campers. Although mostly male, these campers are remarkably diverse: black, white, young, old, rich, poor, and everything in between. Although some will say they enjoy the outdoors and the experience of camping out, what truly unites these campers is the love of one thing: having a chance to buy a pair of \$180 basketball shoes.

Yes, these athletic shoe enthusiasts, or *sneakerheads*, camp out in front of malls and other retailers to have a chance to purchase a pair of Nike Air Jordan basketball sneakers. In fact, camping out for sneakers is even becoming more of a monthly or weekly event, as sneaker limited edition releases have become more frequent and more coveted in recent months (Void, 2013). What's fascinating is that Michael Jordan has not played professional basketball since 2003, yet his shoes continue to fuel sneaker hysteria and dominate the United States basketball shoe market share (Badenhausen, 2013).

Most of these campers will never play basketball in a coveted pair of Air Jordan sneakers, opting instead to wear the shoe in casual settings. Some campers will never wear the shoe at all and are simply buying to collect a pair. Others, known as resellers, view the hunt as a business matter where one can buy a shoe at retail for \$180 and later that day, easily sell the same pair on eBay for \$300. To better understand the current,

post-year 2000 sneakerhead phenomenon it is essential to comprehend the history of one of the most successful and important relationships in sports business history, that of Michael Jordan and Nike.

## **1.1 The Birth of Air**

On October 24, 1984, a professional basketball player by the name of Michael Jeffrey Jordan signed an endorsement deal with the sports brand Nike (Bengtson, 2013). Michael Jordan had recently completed a highly successful collegiate basketball career at the University of North Carolina at Chapel Hill, and after he decided to turn professional to join the National Basketball Association (NBA), the Chicago Bulls team rewarded the 21-year-old by making him the third overall pick of the NBA's annual Draft Lottery. Both Nike and the Chicago Bulls had high expectations for the six foot six inch shooting guard, but what ensued over the next several years could not have been predicted by even the biggest of Michael Jordan fans. The man nicknamed "Air" went on to dominate the NBA during his career with the Chicago Bulls as he went on to win six NBA championships, six NBA Final MVP awards, five regular season MVP awards, and is widely regarded as the greatest athlete of the 20th century (Schwartz, 1999).

Jordan's instant greatness on the NBA court prompted Nike to create and market a signature shoe line for the star athlete, and in 1985, Air Jordan basketball shoes were born (Bengtson, 2013). The first Air Jordan sneakers were actually against the NBA's dress code because they did not have enough of the color white in them, and Jordan was fined each time he wore the shoe. Nike agreed to pay these fines and capitalized off this

publicity by marketing the fact that the shoes were banned by the NBA in TV commercials and print ads. Coupled with Jordan's stellar on court play, the NBA's banning of the first Air Jordan sneaker added an element of desirability to the item as they became extremely popular as not only basketball shoes, but as fashion statements as well (DePaul, 2009). Nike also used Jordan to introduce the concept of a shoe series, and each season a new Air Jordan sneaker was introduced. Subsequent Air Jordan releases were simply named based on the order in which they came in. So in Jordan's second year in the NBA, the Jordan II was released, and in his third year in the league, the Air Jordan III was released, and so on.

Just like Jordan's career, Nike's revenues soared in the 80s and much of the 90s. Extremely popular advertising campaigns and branding coupled with Jordan's athletic success proved to be a powerful combination for Nike. In fact, the success of the Air Jordan line gave Nike the necessary evidence to sign and create signature shoe lines for other top athletes. Tennis player Andre Agassi, baseball/football player Vincent "Bo" Jackson, and NBA stars Anfernee "Penny" Hardaway and Charles Barkley were just a few of the athletes during that era that had signature shoe lines created for them by Nike (Nike, Inc Annual Reports, 1989 & 1997). Rival companies such as Reebok, Adidas, Fila, and Converse followed suit and began to create, market, and sell signature shoes for other star athletes. The success of the Air Jordan line was so evident that in 1997 Nike and Michael Jordan decided to officially make the Jordan Brand a separate division of Nike. This meant that along with an annual signature shoe, Nike would also create and brand other Jordan sneakers and athletic wear that would feature the famous Jordan Jumpman logo rather than the iconic Nike swoosh (DePaula, 2009). By fiscal year 1998,

Nike achieved a then record \$9.6 billion in revenues (Nike, Inc Annual Report, 1998).

1998 was also the year of Michael Jordan's final championship and subsequent retirement from the NBA. The question now became, could Nike and Jordan continue to capitalize off his massive success and popularity post-retirement. Investors were immediately concerned over his retirement, as Nike stocks tumbled by 5% upon his announcement (Walsh, 1999). However, the answer was and continues to be a resounding yes. In fact, in 2012 Nike's Jordan Brand alone earned Nike an estimated \$1.75 billion in revenue (Badenhausen, 2013). So how does Nike and Jordan "just do it" in terms of staying relevant and selling more sneakers to consumers in an increasingly competitive market?

## **1.2 Rise of the Retro Sneaker, Limited Edition Releases and the Information Age**

Up until the late 90's and early 2000's Nike Air Jordan sneakers were wildly popular, but rarely was the demand so high that the shoe would sell out in minutes after a release. It is also true that even after his 1998 retirement, a new pair of Air Jordan sneakers were still released every NBA season (Badenhausen, 2013). Continuing to annually release a new signature shoe design for Michael Jordan made even more sense when the star decided to unretire from the NBA and play two more seasons for the Washington Wizards from 2001-2003. Along with the annual release of a new pair of signature Jordan sneakers, Nike and Jordan Brand decided to reissue some of his previous signature shoes. These reissues would be known as Air Jordan Retro sneakers and would be released in both original and new color schemes (Void, 2013).

Around the same time that Nike and Jordan Brand began experimenting with releasing retro shoes, online sneaker communities began to spring up across the web. These communities became a place for sneaker connoisseurs to discuss, sell, trade, and ultimately connect over sneakers. Online auction website eBay also became a go-to destination for sneakerheads looking to buy, sell, or research sneakers (Bengtson, 2013). The depth, reach, and connectivity of the Internet was suddenly turning sneaker buying, selling, trading, and collecting into an enjoyable hobby for thousands of fans worldwide. Soon enough, a secondary market for sneakers began to emerge and retro sneakers became highly popular, valuable, and sought after.

Nostalgia became a common reason for the popularity of retro sneakers. Sneaker fans would relate reissued retro sneakers with nostalgic feelings of the "good ole days" (Void, 2013). Sneakerheads would voluntarily post comments such as what sneakers they wished would be reissued, what they liked or disliked about a particular shoe, and how much they would be willing to spend on a specific sneaker. These open online sneaker communities as well as eBay became an information gold-mine for Nike as they could now really understand customer wants. Nike executives used eBay's rich sales data as well as consumer-generated sneaker related information to better understand the sneaker market and create a sales strategy that would please consumers as well as shareholders (Staple, 2005).

By the mid-2000's Nike began to reissue more and more retro sneakers. However, unlike previous retro releases, Nike would purposely announce the release date, retail price, and specific vendor information a few weeks prior to the release date. These announcements were quickly picked up and reported on by online sneaker forums,

websites, and blogs. Nike also decided to purposely price coveted sneakers below market value and hold back production to make the releases a limited type of event. This meant that once they were sold-out in retail stores, one would have to look at the secondary market (eBay being the biggest) and often pay a premium considerably above retail price to purchase a pair. Nike's shrewd method of releasing sought-after sneakers helped create much hype throughout sneaker communities and turned many more semi-sneaker fans into "certified" sneakerheads (Staple, 2005). In fact, Nike's revenues more than doubled over the first decade of the 21st century going from \$8.9 billion in 2000 to over \$19.1 billion in 2009 (Nike, Inc Annual Reports, 2000 & 2009). Rising Air Jordan sneaker sales facilitated Nike's tremendous growth as one out of every ten athletic shoe sold in 2009 was a Jordan brand sneaker (Rovell, 2009).

### **1.3 Collectors, Resellers, and Sneaker Culture Today**

Today in 2013, over 28 years since their debut, Air Jordan Sneakers continue to be extremely popular. Nike, Jordan Brand, and other manufactures are taking full advantage of this retro-revolution by reissuing previously released sneakers that originally appeared in the 80s and 90s (Void, 2013). Coveted releases appear at select brick and mortar and online retailers where customers have a chance to buy the shoe at retail price, usually between \$120 - \$200. Some releases will often sell out in a few minutes, and the only way to get a pair at retail price is to be first in line physically or extremely fast at completing a retailer's online checkout process. Some tech-savvy sneakerheads even use online scripts that will automate the process of checking out and buying a sneaker online as soon as the product goes "live." Online retailers such as

Nike.com, believe this is unfair, and have introduced a method of only releasing links to limited sneaker releases via the social network Twitter to “even the online playing field” (Halfhill, 2009).

The secondary market created by the love and demand of retro sneakers has given way to two distinct types of buyers, those that buy to sell, known as resellers, and those that buy to keep, known as collectors (*The Love of the Shoe Sneakerheads*, 2013).

Resellers are driven by buying low and selling high, while collectors are more focused on having and keeping the actual shoe. Naturally, this creates a dynamic where collectors who miss out on a coveted initial retail release will be willing to pay over retail price from a reseller to own a particular shoe. The Internet is the perfect medium for this type of connection to be made, and the online consumer-to-consumer website eBay is a major destination for both sneaker collectors and resellers (Bengtson, 2013).

By allowing virtually anyone with an Internet connection to sign-up, eBay has a massive collection of retro sneakers for sale. In fact, when it came time to sell the largest private retro sneaker collection in the world known as The Shoezeum, the owner decided to unload his rare 2,000 pair collection on eBay (Kim, 2013). With an inventory updated virtually every second, eBay allows sneaker collectors to find and buy a coveted pair of sneakers. Sneaker resellers know this well, as eBay provides not only a great marketplace to sell sneakers, but also an incredible amount of sales information that can help resellers better understand the market value of retro sneakers (Bengtson, 2013).

## Literature Review

This paper was heavily inspired by the Galinsky, Ku, and Murnighan (2006) article entitled *Starting Low but Ending High: A Reversal of the Anchoring Effect in Auctions*. In the article, the authors write that traditional methods of pricing encourage sellers to start high to end high, meaning that a higher starting price will make an item appear more valuable and eventually yield a higher price. The trio go on to explain that traditionally, higher prices acted as anchors to final selling prices because buyers would place an irrational significance on the high “anchoring” selling price. By completing a series of auction style experiments, including a few on eBay, the authors suggested that the anchoring effect could very well be reversed in auction settings as high prices deter participation. Inversely, low prices encourage user participation. The increase in user participation is created because of barriers to entry being lowered (the price), and a low price auction can now get more traffic and time commitments from potential buyers. Finally, the price of a start low item can end higher than a start high item because more and more traffic exists for the low price item creating more hype around the item and increasing its perceived value.

Of particular interest were the eBay studies performed. The authors gathered and analyzed eBay auction data from a particular model of Nikon digital cameras. Analysis of the Nikon eBay sales data found that indeed auctions with higher starting prices yielded lower final sale prices than auctions that began at lower starting prices. Interestingly enough, the group also gathered and analyzed eBay auction sales data from

Michael Jordan T-shirts that were spelled wrong. The purpose of this study was to show that the misspellings in the auction titles created a high barrier to entry and thus reinforced traditional anchoring effects of start high to sell high. While these studies focused strictly on auction style eBay formats, my study was focused more on the eBay experience as a whole which includes auctions as well as fixed-price listings. Also, it is important to understand that the data from the trio's study was gathered over a decade ago in 2002. Back then eBay was very auction focused with 71% of its sales coming from variable-price auction style listings, but now, in 2013 fixed-price and buy it now listings represent over 65% percent of eBay's sales (Steiner, 2013). This sizeable shift in eBay's sales could be due to my observation of changing market behaviors where consumers are less willing to bid and wait for auctions to end to *maybe* purchase an item. Whatever the reason, it seemed evident that it was time to create an updated study incorporating eBay starting and ending prices.

While Galinsky, Ku, and Murnighan's article focused primarily on consumer auction behaviors and less on the nuances of a specific type of product, in *Selling a Car in an Electronic Auction: A Case Study of eBay Motors*, author Jim Britton (2003) focused on the different aspects of selling a rather rare automobile on eBay. The paper begins with him describing a brief history of eBay and how it was beginning to morph into a destination where high priced collectibles could be bought and sold. Britton then goes on to create an auction for his brother's rare Mercedes S-Class. Communication patterns, bid activity, and traffic activity from the listing are then documented and broken down to try and create potential conclusions. The car ultimately sells by phone to an automobile reseller, and the terms are finalized in person by his brother and the dealer.

What's interesting about Britton's study is that he was also interested in selling a collectible type of item on eBay. Although a rare Mercedes and a pair of retro sneakers have much different price points, they both share similarities in that their buyer markets contain aficionados and connoisseurs willing to pay premium prices to buy the "right" one. The buyer markets for both types of items also contain many resellers that view eBay listings as a way to work out deals to buy a product at the right price. This observation was evident in Britton's study where most of the communication regarding the listing was phone based in trying to work out a deal. Many listings observed in my study seemed to "use" eBay as simply a connecting tool, where the final deal was performed outside of eBay. These completed listings often appear as un-sold to an untrained eye, but careful analysis uncovers one of two usual activities: 1) the seller ended the auction early, because the item is no longer available and sold or 2) the seller provided his/her phone number in the auction to encourage a buyer to call and work out a deal outside of eBay. This practice is frowned upon by eBay as sellers can use this method to avoid paying eBay seller fees. Either way, the Britton article was useful in understanding how a previously rare item sold on eBay. That being said, the study focused on one listing that occurred over ten years ago. The retro sneaker eBay study analyzed close to 1,500 listings that recently ended between April and June of 2013.

A study on highly sought after retro sneakers would feel incomplete without reviewing literature regarding consumers and nostalgia. Remember, a deep longing for one's past is a main force driving demand and sales for these reissued sneakers (Void, 2013). The prevalence of this phenomenon is well examined and suggested in Schindler and Holbrook's (2003) article entitled *Nostalgia for Early Experiences as a Determinant*

*of Consumer Preferences*. The study begins with the investigation of prior psychology of marketing studies which suggested that preferences of music, movies, and fashion are highly influenced by what was popular in a one's youth. The fact that the article mentions fashion directly relates to the retro sneaker study, since sneaker culture's 1980s roots began when consumers decided to turn athletic shoes into fashion statements (Staple, 2005). The study then goes on to hypothesize that, along with fashion, music, and movies, automobile preferences of consumers are also strongly influenced by what was highly admired during one's youth. To test this hypothesis the authors gathered several consumers from both sexes ranging from young to old. Consumers were asked to rate how much one liked each model after being given 80 different pictures of purposely unbranded automobiles representing what was popular in each year starting from 1915 and ending in 1994. Next, the consumers were given already established tests to determine one's nostalgia preference. Naturally, the study found that consumers most prone to nostalgia preferred model year cars similar to one's youthful years. The study also found that overall, regardless of an individual's nostalgia preference test results, males preferred automobile year models coinciding with the years of a participant's youth. However, females as a whole, did not exhibit this same pattern.

While this study focused more on proving that nostalgia exists in automobile preferences, it was necessary to review and digest to help further explain why retro sneakers have become so popular and desirable to consumers. Naturally, retro sneakers are also consumed by people with an affinity towards one's youth. Outsiders may feel that sneaker culture is completely foreign, but literature like the preceding help to define the power and influence nostalgia can have towards one's fashion preferences.

Many studies regarding eBay focus on the auction aspect of the site. This seems natural since eBay started off as an auction site, then gradually gave sellers the option to list items at a fixed price (Steiner, 2013). Robert G. Hammond (2008) is quick to make this observation and study the distinction between the two listing formats in his study entitled, "Comparing Revenue from Auction and Posted Prices." In his study, Hammond gathers and examines compact disc data relating to 5,000 listings on eBay and Half.com (an eBay subsidiary focusing on media). His sample contains information regarding both fixed price and auction style listings. Data relating to a listing's selling format (fixed or auction), starting price, ending price, are all collected and examined. Hammond also gathers and examines volume statistics relating to size of sellers. His study finds that fixed price formats are typically sold at higher prices than auction style, but auction style are more likely to sell. High volume sellers tended to focus on selling fixed style, while lower volume sellers preferred to sell auction style.

It was important to find and review literature that focused on eBay not only as an auction site, but as a fixed price destination as well. One of the main questions that was asked prior to my study was that relating to which listing style would yield the highest revenues. Both Hammonds study as well as the sneaker study found that fixed price listings sold at higher prices than auction style. Since the process of gathering data from eBay proved long and tedious for my study (fully explained later in the Method section), it would have been beneficial to learn exactly how Hammond gathered his eBay and Half.com data, but unfortunately the article did not mention this. It is also worth noting that my study gathered data from nearly 1,500 listings of the same style sneaker, while the compact disc study did not segregate based on specific product and was interested in

any music compact discs. I believe that focusing on one specific style of product can help in removing unnecessary and potentially misleading differences between listings.

While literature was found to have been written about auctions, pricing, eBay, and the consumer psychology of nostalgia, this retro sneaker study is differentiated and necessary because there never appeared to be a study that combines all elements to suggest answers specifically relating to selling retro sneakers on eBay.

## **Purpose and Goals of this Study**

Sneaker sellers interested in maximizing selling revenues are faced with several important business decisions when listing an item for sale as eBay offers users many different listing options relating to format, selling price, and listing duration. The purpose of this study was to collect, format, and analyze eBay's rich completed sneaker sales data to help understand what seller strategies worked best in maximizing retro sneaker sales revenues. Of specific interest were answers to the following questions believed to potentially impact revenues:

- Should the listing be an auction where potential buyers ultimately determine the price? If so, at what price should the listing price begin?
- Should the listing be a fixed price format? If so, how much should it list for?
- Will adding an option to allow potential buyers to send a best offer help the item better sell?
- When is the best time to sell on eBay in relation to a sneaker's official release date?
- What size sneaker sells the best?

The study proved highly productive as it involved gathering and analyzing information from approximately 1,500 completed eBay listings and helped suggest

answers to the above questions. Before data was gathered and analyzed it was hypothesized that fixed price listings, or Buy It Now as eBay calls them, would produce higher selling prices than auction style listings. To test this hypothesis each listing's final sales price for both auction and fixed price styles was collected, averaged and compared. The hypothesis proved correct as fixed price listings ended up being sold for 6.1% higher than auctions. Based on critical thinking and previous literature, it is believed that the exclusivity of the sneaker makes emotional nostalgic buyers impatient towards waiting for an auction to end and thus will to pay a further premium to secure a pair of coveted retro sneakers.

In terms of best time to sell, it was correctly hypothesized that listings ending before a release date would have the highest selling prices. This hypothesis regarding timing was proved correct by analyzing the end dates and final sales prices for the 1,500 completed retro sneaker listings. Specifically, listings were segmented by weeks in which they were sold and average final sales price was calculated for each week to determine the answer. The direct relationship between final ending price and market anticipation and hype regarding the sneaker could help explain why retro sneakers sold for highest before and on the weeks of its official release. It is important to note that this does not necessarily mean that the buyer actually had the item before the release date, as many of these listings proved to be pre-orders where the buyer promised to ship the item on a sneaker's official release date. Originally, I believed that final sale prices would be fairly steady on the week of and the next few weeks following the a manufacturer's officially scheduled release date, but the data proved this hypothesis incorrect as final sale prices proved to be highest the week of the release date. Sale prices the immediate

week after a release date noticeably decreased and following weeks proved to never reach release week levels.

The question about shoe size is important because a reseller could have a choice of which size to buy and it would be potentially advantageous to sell a size that yields the highest sales price. A manufacturer's set retail price for a specific men's retro sneaker style, usually size 7 and up, is the same regardless of size meaning a men's size 7, 14, and everything in between, should be sold by official retailers for the same price. That being said, prior to the study it was hypothesized that US men's sizes 9.5, 10, and 10.5 would be most popular in terms of availability and this popularity would be reflected in a higher average selling price than other sizes. This hypothesis was based on the fact that, as an avid sneaker collector for the past several years, I have had no trouble finding plenty of styles near my personal 10.5 shoe size. The study mostly agreed with the popularity portion of the size hypothesis, but larger sizes between 11 and 14 proved to sell at highest prices. Higher sale prices for larger sizes could be due to less selling competition. In essence, the study suggests that maximum revenues for retro sneakers can be realized on eBay by selling shoe sizes 11 and up, at a fixed price, on the week of or before a schedule release date.

## Method

The purpose of this study was to find answers relating to the best methods of selling retro sneakers on eBay. A data-driven methodology was created and applied to accomplish the study's goal. One of the first crucial decisions that had to be made was picking the right sneaker for data collection purposes. It was determined that a single retro sneaker style should be selected to remove any potentially misleading value differences that could alter results. Most importantly, picking a single product could help to remove any supply/demand related differences between different products. That being said, it was of equal importance to select a retro shoe model that was recently released with much hype and sold out from retailers quickly. It is also important to remember that for this study, a retro sneaker is a reissue of a shoe that was popular in the 80s and 90s, and is still popular and highly sought after today.

With the preceding requirements in mind, the Reebok Shaq Attaq retro sneaker was selected. The original Reebok Shaq Attaq was released in 1992 during basketball star Shaquille O'Neal's first year in the NBA. Shaquille chose to sign an endorsement deal with Reebok, as Reebok tried to gain basketball shoe market share from then and current market leader, Nike (Bengtson, 2013). The shoe proved popular to many in 1992, but was not reissued until April 19th, 2013. The retro version retailed for \$160 and was sold out from retailers almost immediately. While Nike has been reissuing popular retro sneakers for over a decade, competitors such as Reebok have recently capitalized off the

trend, and there was much excitement from sneakers fans when Reebok first announced that the Reebok Shaq Attaq was going to make a comeback (Void, 2013). Reebok.com sold out of the shoe in minutes after its previously announced 8 A.M. Eastern release (see Appendix A). The characteristics of this retro sneaker's popularity coupled with a healthy eBay market for the Shaq Attaq made it an ideal sneaker for this study. Also, results from the Reebok Shaq Attaq's completed eBay sales data could be generalized to other retro sneakers with similar popularity characteristics.

The process of collecting the data from eBay consisted of doing an eBay completed listing search for the query "Reebok Shaq." To be counted in the study, the listing had to be for a brand new pair of Reebok Shaq Attaq retro sneakers (See Appendix B.1). If a pair came with an extra item such as a t-shirt or pair of socks, it was not counted. Data from every completed Reebok Shaq Attaq listing ending between March 23, 2013 and June 14th, 2013 was manually collected and stored in a Microsoft Excel spreadsheet. Collecting the data on these nearly 1,500 different listings proved necessary yet tedious. Specifically being collected and stored in the spreadsheet was data regarding a listing's eBay item number, whether or not the listing sold, shoe size, listing type, ending date, fixed price, shipping cost, auction duration, auction start price, auction end price, number of auction bidders, total bids, offers, and final sold price (see Appendix C.1). At first, it was thought that a script could be purchased which could help in collecting this data, but no appropriate script was found. Simply gathering information from the completed listings search results page proved to be insufficient, as most of the data was found only by clicking and viewing the actual completed item's full original page (see Appendix B.2).

After the data was gathered into the spreadsheet, the data was cleansed to account for any input errors. Cleansing the data was done by using spreadsheet filters to make sure certain attributes were proper for a specific listing (see Appendix C.2). For example, if an item did not sell, it could not have a final price. If an item did not sell but contained a final price in the spreadsheet, then it was further investigated by reexamining that specific listing. The line item could then be corrected after the investigation. Having recorded each listing's eBay item number was critical in allowing for a proper cleanse.

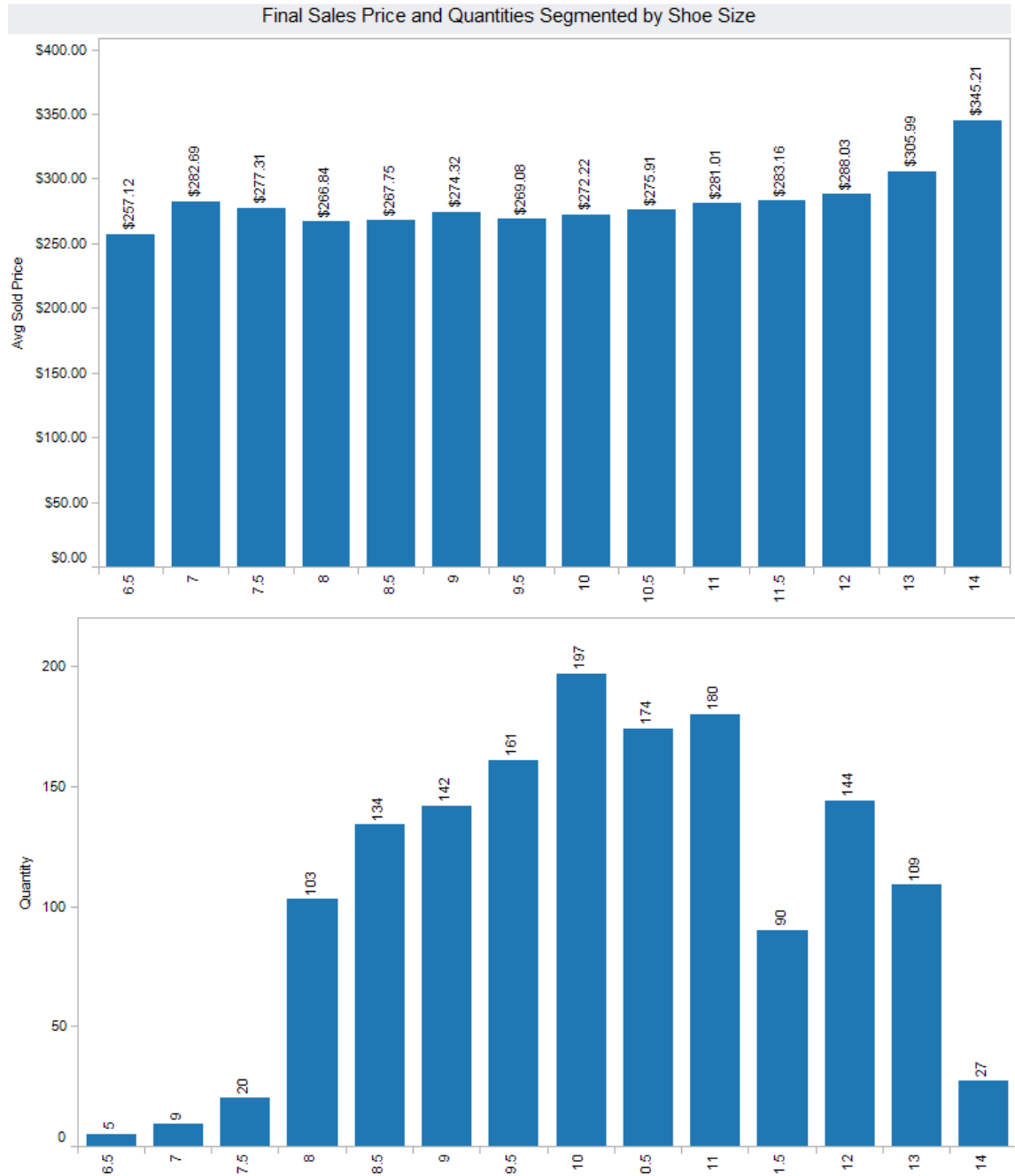
After the spreadsheet was cleansed, it was put into a data visualization software by the name of Tableau (see Appendix D.1). Tableau has different options regarding what it can read, so it was important to create a spreadsheet that would lend itself properly to the powerful software. End date and time were two attributes that were collected for each listing, but they had to be properly formatted in the spreadsheet to properly harness Tableau's crucial time dimension feature (see Appendix D.2). Once the spreadsheet was properly read and rendered by Tableau, different Tableau worksheets were built to analyze the data (see Appendix D.3). Of main importance for the study was segmenting the data to look at different average selling prices. Items were segmented by different attributes such as shoe size, listing style, listing end date, and auction start price. The combination of a clean spreadsheet filled with thousands of actual eBay listing data points and a powerful data visualization software proved to be a highly useful mix in analyzing and making sense of the data.

## Results and Discussion

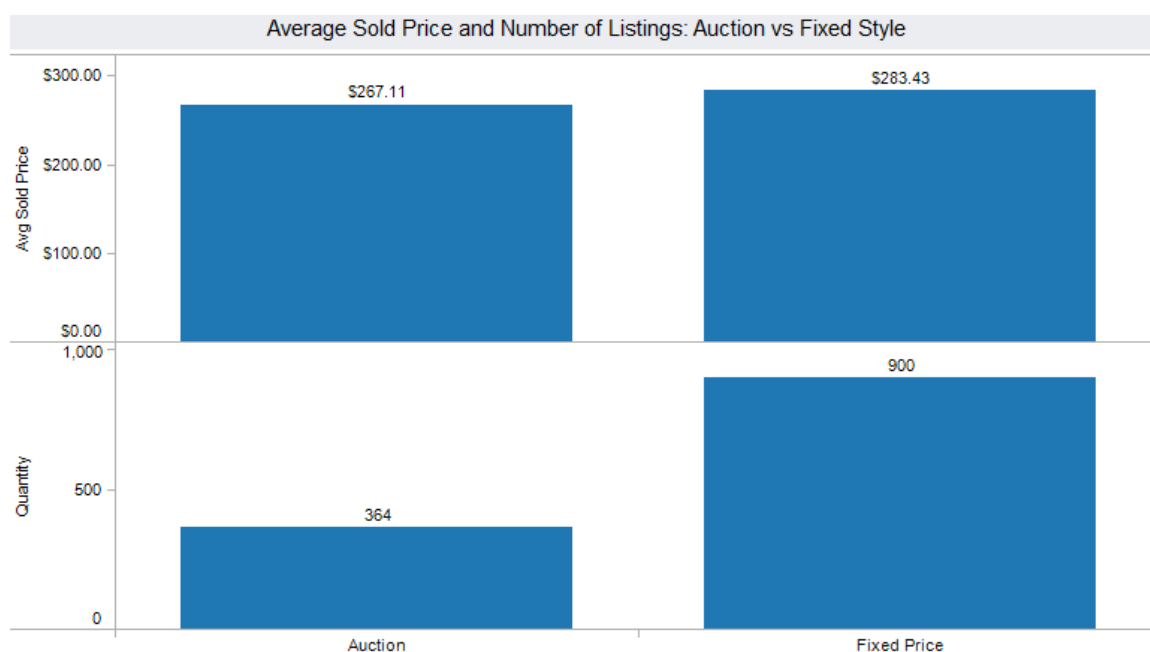
This paper began with a picture being painted of sneaker fans camping out for a chance to purchase a pair of retro shoes at retail cost. This study aimed at providing actual data and evidence to make the reasoning behind such activities more understandable. While the Reebok Shaq Attaq retailed for \$160, the average sold price on eBay was \$278.95, representing a whopping 74% increase over retail price! Keep in mind that this average came from final selling prices of over a 1,000 different listings. Also, of the 1,495 listings that were recorded, 1,379 ended up sold, representing a 92% close rate. In total and in less than a 3 month period, this study examined over \$367,000 worth of eBay sales for one specific sneaker, the retro Reebok Shaq Attaq. It is estimated that a sneaker with similar supply and demand characteristics as the Reebok Shaq Attaq is currently released between two and four times per month (Void, 2013).

The potential to buy a retail retro sneaker and sell it for 74% more than what was originally paid helps prove that money can be made for sneaker resellers. That increase over retail was based on all listings from this study, but what happens when the data is further segmented? When looking at the different ending sales prices for different shoe sizes we get the following graph. This graph shows that larger sizes typically sell for higher prices. This information can be valuable to a reseller who may have options on what shoe size to buy. Also the graph includes data regarding the popularity of the shoe sizes sold from this study. It is clear that sizes 10, 10.5, and 11 have the most volume, but this is not translated into higher sales. The average size of a man's sneaker in the US

is 10.5, so the volume data matches up with this statistic (Holloday, 2002). Size 11.5 having such a low volume is interesting to note, but I cannot come up with an explanation. Volume and average selling price not being directly proportional could be due to competition being high for popular sizes thus driving down average selling prices.



One of the main goals of this study was to look at the difference in selling prices between fixed price listings and auction style listings. Previous literature regarding a reversal of the anchoring effect on pricing focused only on auctions, but data from this study, suggests that the anchoring effect is actually followed when comparing the two listing formats (Galinsky, Ku, & Murnighan, 2006). This could be due to buyers being risk adverse to auction style listings and opting instead to secure a fixed price sale for a coveted pair of retro sneakers (Ackerberg, Hirano, & Shahriar, 2006). Impatience can also help explain why averaging selling price is higher by over \$16.00 in fixed price listings compared with auction style. Sellers seem to understand this as well, since the amount of fixed price listings from the study more than doubled that of auction style listings (see graph below).



Looking at only auction listings, it was found that those with a starting price at or below the retail price of \$160 ended at a final price almost identical to auctions starting at

above the retail price. Seller preferences are also similar in terms starting above or below/at retail price. This helps prove how a final price is formed by market demand almost completely independent of retail price. See following graph for comparison.

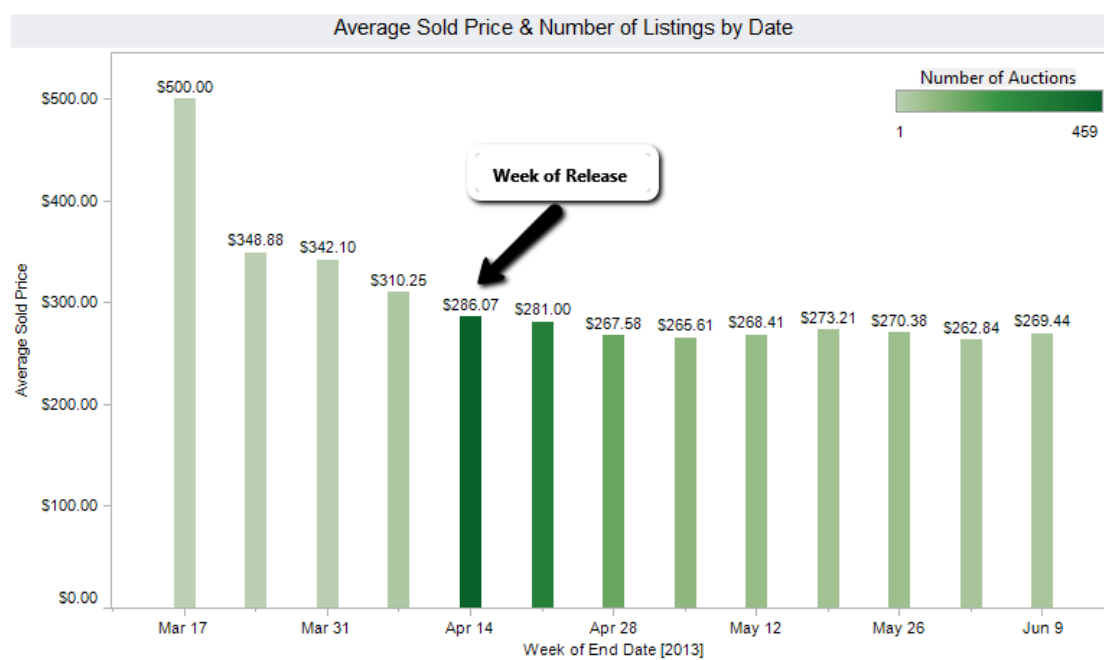


Almost the same final price and quantity behavior is also found when comparing auctions that started low (\$10 and under) and auctions that started high (\$200 and up).

See below graph for comparison.



For each listing, end date was recorded to better understand buying behaviors related to a retro sneaker release date. Sneaker fans are usually given notice by manufacturers and retailers a few weeks prior to a specific release. This strategy helps build anticipation and generate buzz about a retro sneaker. The Reebok Shaq Attaq retro sneaker was picked due to its recent release of April 19, 2013. When analyzing the data and segmenting sold auctions by end date, listings beginning and ending before the week of the release date fetch the highest average sales price. This suggests that buyers are willing to pay a premium to get the shoe prior to a release date, and if possible, sellers can benefit by securing and selling the sneaker prior to its release date. The data also suggests that the majority of listings end the week of the release date. The few weeks measured after the release date suggest the sneakers yield a lower final sale price than the weeks prior or the week of the release, suggesting that it is better to sell a sneaker closer to its official release date. (color intensity of bars in graph represent number of auctions)



## Conclusion

This study analyzes eBay's secondary retro sneaker market created by highly sought after and hard-to-get sneaker releases. The findings confirm a common willingness for buyers to purchase retro sneakers at costs substantially above manufacturer set retail prices. Reviewed literature and participant observation indicate that this willingness could be derived from the powerful force of nostalgia on consumers (Schindler & Holbrook, 2003). The research also documents several seller strategies that maximize eBay sales revenue for retro sneakers, including selling larger sizes (US men's 11-14), using a fixed price listing instead of auction style, and listing items close to an item's official release date. The study's analysis has implications for the thousands of eBay sellers looking to maximize revenue from retro sneaker sales. Naturally, buyers could also find the study useful since attributes of listings that yield lowest final sales prices are present. The study could also be generalized to fit with other highly sought after consumer products that conjure up nostalgic emotions.

Risk aversion could be a reason why fixed price listings are more popular and yield higher final selling prices than auction style listings (Ackerberg, Hirano, & Shahriar, 2006). Auctions are inherently riskier for sellers because of the loss in control of final price. Buyers may feel more risk with auctions too, because bidding on an item has no guarantee that one will win and ultimately own the listing. I believe that buyers may feel that the risk of losing an auction outweighs the benefit of potentially paying less. Larger sizes yielding higher sales prices could be related to the decrease in options

for potential buyers. Since larger sizes had fewer quantities of total listings, market competition may have been less invasive potentially prohibiting potential competition related price drops. Items sold before and on the selected sneaker's official release week proved to yield highest prices, while sales prices were lower for listings ending in the weeks following the release week. This pattern can be directly related to the amount of hype experienced for a retro sneaker peaking at release date, and decreasing in subsequent weeks.

In future studies it would be beneficial to expand the analysis of eBay retro sneaker final sales prices to include items with a longer sales history. This could help determine if and how a particular product may appreciate over time. Other studies could also focus on profitability rather than revenue maximization, since larger items are heavier and will cost more to ship, and eBay fees are typically lower on auction listings than for fixed price listings. Future studies could benefit both sneaker collectors and resellers.

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## Appendices

### Appendix A

Reebok.com's message to fans almost immediately after the Shaq Attaq release.



## Appendix B.1

Screenshot of completed eBay search result used to collect data for study

The screenshot shows an eBay search result page for 'shaq reebok'. The browser address bar displays the URL: [www.ebay.com/sch/Mens-Shoes-/93427/i.html?\\_from=R40&LH\\_Complete=1&\\_nkw=shaq+reebok&rt=nc](http://www.ebay.com/sch/Mens-Shoes-/93427/i.html?_from=R40&LH_Complete=1&_nkw=shaq+reebok&rt=nc). The page header includes the eBay logo, a 'Shop by category' dropdown, and a search bar containing 'shaq reebok'. The search results show 1,681 results for 'shaq reebok'. The left sidebar contains filters for Categories (Clothing, Shoes & Accessories), Men's Shoes (Athletic, Mixed Items & Lots, Casual, Sandals & Flip Flops), Format (All Listings, Auction, Buy It Now), and US Shoe Size (Men's). The main content area displays a 'SHOP BY style' section with icons for Athletic Sneakers, Basketball Shoes, Bowling Shoes, Cleats, Dance, and Golf Shoes. Below this, a specific listing is shown for 'Vtg 1998 Reebok Reignman II 2 10 Kamikaze Pump Shaq Attaq Question Answer 1 IV 4'. The listing includes a photo of the shoe, a description, and a price of \$20.50. The right sidebar features a 'Popular on eBay' section with images of Reebok Zigmaze and Reebok Ziglite running shoes.

Hit Sign in or register | Daily Deals | **EARN 50,000** MEMBERSHIP REWARDS POINTS | My eBay | Sell | Community | Customer Support | Cart

Shop by category: **shaq reebok** Men's Shoes Search Advanced

Related: shaqnosis reebok vintage reebok shaqnosis reebok kamikaze patrick ewing shoes jordan grant hill adidas campus vintage ...

Categories: Clothing, Shoes & Accessories  
Men's Shoes  
Athletic (1,620)  
Mixed Items & Lots (56)  
Casual (8)  
Sandals & Flip Flops (2)

Format: see all  
All Listings (1,681)  
Auction (649)  
Buy It Now (1,096)

US Shoe Size (Men's): see all  
5.5 6.5 7 7.5 8  
8.5 9 9.5 10 10.5  
11 11.5 12 13 14

Color: see all  
Black Blue Yellow Grey  
Green Purple Red White

All Listings Auction Buy It Now Sort: End Date: recent first View: [icon]  
1,681 results for shaq reebok Save search  
Completed listings

**SHOP BY style**  
Find the perfect athletic shoes  
ATHLETIC SNEAKERS BASKETBALL SHOES BOWLING SHOES CLEATS DANCE GOLF SHOES

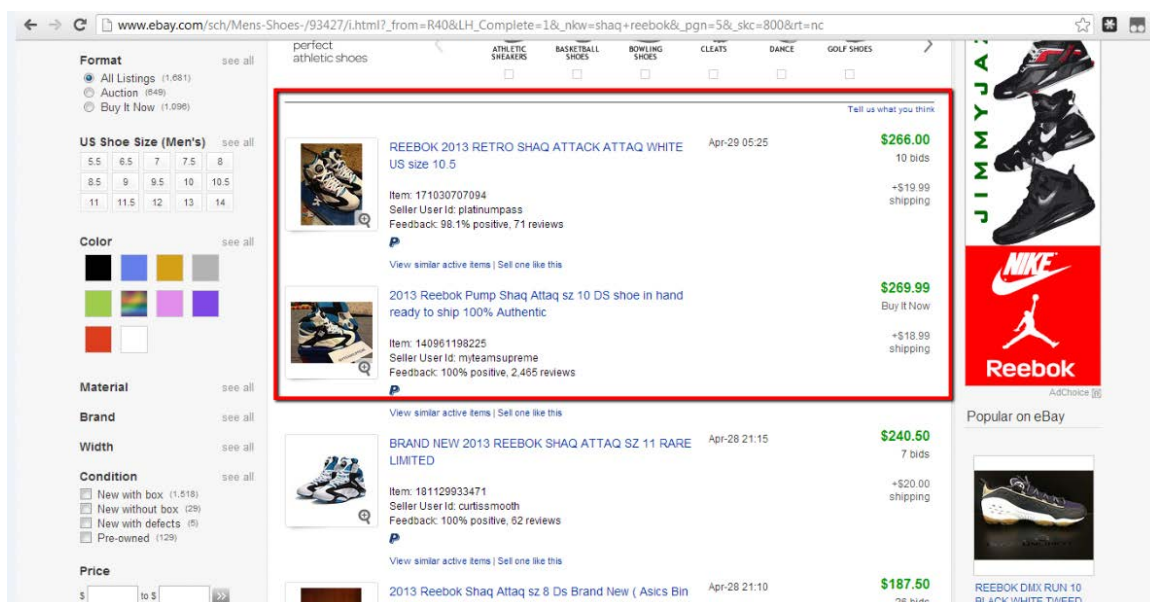
Tell us what you think

Vtg 1998 Reebok Reignman II 2 10 Kamikaze Pump Jun-17 12:53 **\$20.50**  
Shaq Attaq Question Answer 1 IV 4  
5 bids  
+ \$13.97 shipping  
★ Only Pair On Ebay ★ Always 100% Authentic Guaranteed★  
Item: 390610920121  
Store: ALL SOLED OUT Rare Nike and Jordan  
Seller User Id: dballaholic  
Feedback: 99.8% positive, 4,927 reviews  
Top Rated Plus  
View similar active items | Sell one like this  
size 12.0 REEBOK 2013 RETRO SHAQ ATTACK ATTAQ **\$295.00**

Popular on eBay  
Reebok Zigmaze mens athletic running shoes... **\$49.99** Buy It Now  
Reebok Ziglite run mens athletic running shoes... **\$44.99** Buy It Now

## Appendix B.2

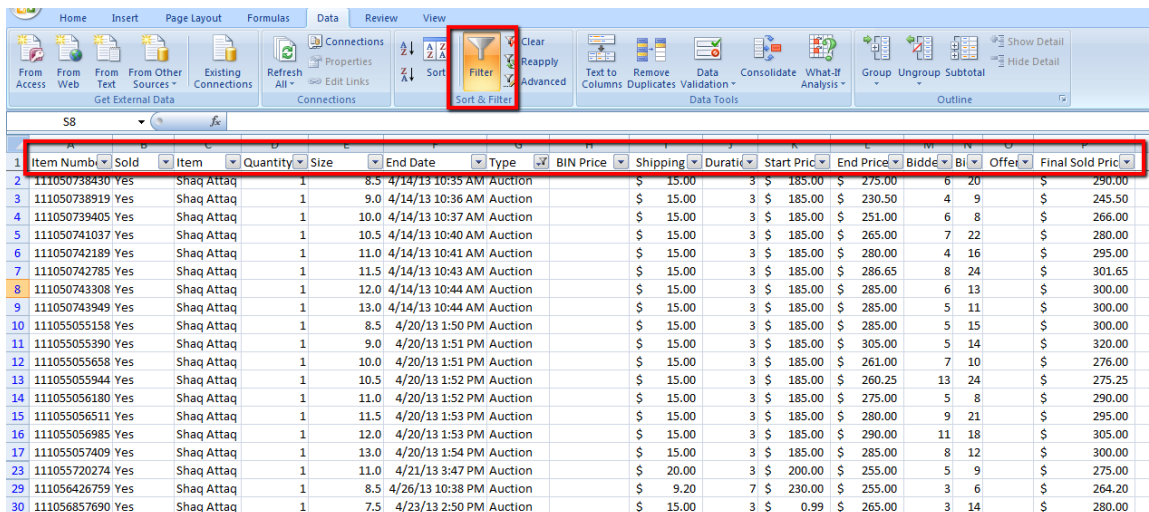
How eBay displays completed result pages is different based on if the listing is an auction or fixed price. Either way I had to click on each listing to gather more data, as the result's page data is incomplete regarding key attributes regarding start price, ending date, and sometimes, shoe size. This ensured data richness but was rather tedious.





## Appendix C.2

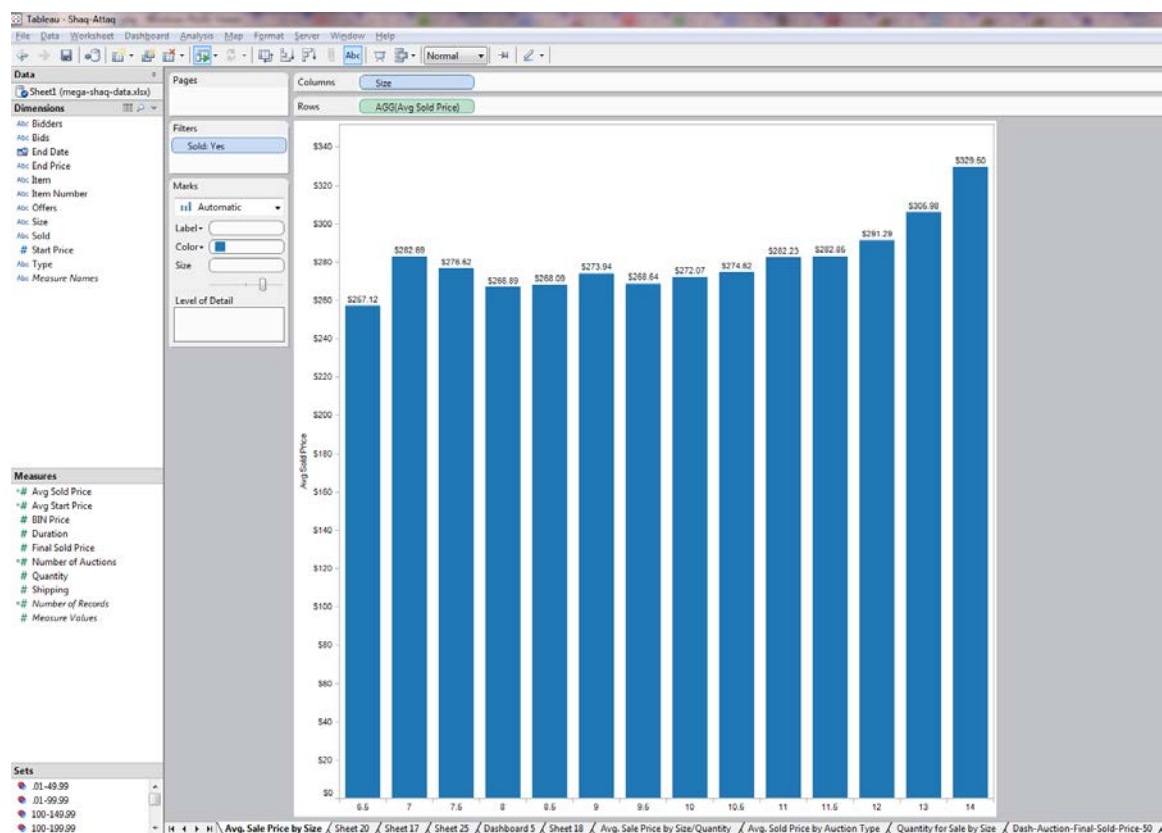
Filters in Excel were a key feature used to cleanse data of any potential input errors.



	Item Number	Sold	Item	Quantity	Size	End Date	Type	BIN Price	Shipping	Duration	Start Price	End Price	Bidder	Bid	Offer	Final Sold Price
2	111050738430	Yes	Shaq Attaq	1	8.5	4/14/13 10:35 AM	Auction		\$ 15.00	3	\$ 185.00	\$ 275.00	6	20		\$ 290.00
3	111050738919	Yes	Shaq Attaq	1	9.0	4/14/13 10:36 AM	Auction		\$ 15.00	3	\$ 185.00	\$ 230.50	4	9		\$ 245.50
4	111050739405	Yes	Shaq Attaq	1	10.0	4/14/13 10:37 AM	Auction		\$ 15.00	3	\$ 185.00	\$ 251.00	6	8		\$ 266.00
5	111050741037	Yes	Shaq Attaq	1	10.5	4/14/13 10:40 AM	Auction		\$ 15.00	3	\$ 185.00	\$ 265.00	7	22		\$ 280.00
6	111050742189	Yes	Shaq Attaq	1	11.0	4/14/13 10:41 AM	Auction		\$ 15.00	3	\$ 185.00	\$ 280.00	4	16		\$ 295.00
7	111050742785	Yes	Shaq Attaq	1	11.5	4/14/13 10:43 AM	Auction		\$ 15.00	3	\$ 185.00	\$ 286.65	8	24		\$ 301.65
8	111050743308	Yes	Shaq Attaq	1	12.0	4/14/13 10:44 AM	Auction		\$ 15.00	3	\$ 185.00	\$ 285.00	6	13		\$ 300.00
9	111050743949	Yes	Shaq Attaq	1	13.0	4/14/13 10:44 AM	Auction		\$ 15.00	3	\$ 185.00	\$ 285.00	5	11		\$ 300.00
10	1110505055158	Yes	Shaq Attaq	1	8.5	4/20/13 1:50 PM	Auction		\$ 15.00	3	\$ 185.00	\$ 285.00	5	15		\$ 300.00
11	1110505055390	Yes	Shaq Attaq	1	9.0	4/20/13 1:51 PM	Auction		\$ 15.00	3	\$ 185.00	\$ 305.00	5	14		\$ 320.00
12	1110505055658	Yes	Shaq Attaq	1	10.0	4/20/13 1:51 PM	Auction		\$ 15.00	3	\$ 185.00	\$ 261.00	7	10		\$ 276.00
13	1110505055944	Yes	Shaq Attaq	1	10.5	4/20/13 1:52 PM	Auction		\$ 15.00	3	\$ 185.00	\$ 260.25	13	24		\$ 275.25
14	1110505056180	Yes	Shaq Attaq	1	11.0	4/20/13 1:52 PM	Auction		\$ 15.00	3	\$ 185.00	\$ 275.00	5	8		\$ 290.00
15	1110505056511	Yes	Shaq Attaq	1	11.5	4/20/13 1:53 PM	Auction		\$ 15.00	3	\$ 185.00	\$ 280.00	9	21		\$ 295.00
16	1110505056985	Yes	Shaq Attaq	1	12.0	4/20/13 1:53 PM	Auction		\$ 15.00	3	\$ 185.00	\$ 290.00	11	18		\$ 305.00
17	1110505057409	Yes	Shaq Attaq	1	13.0	4/20/13 1:54 PM	Auction		\$ 15.00	3	\$ 185.00	\$ 285.00	8	12		\$ 300.00
23	111055720274	Yes	Shaq Attaq	1	11.0	4/21/13 3:47 PM	Auction		\$ 20.00	3	\$ 200.00	\$ 255.00	5	9		\$ 275.00
29	111056426759	Yes	Shaq Attaq	1	8.5	4/26/13 10:38 PM	Auction		\$ 9.20	7	\$ 230.00	\$ 255.00	3	6		\$ 264.20
30	111056857690	Yes	Shaq Attaq	1	7.5	4/23/13 2:50 PM	Auction		\$ 15.00	3	\$ 0.99	\$ 265.00	3	14		\$ 280.00

## Appendix D.1

Tableau was the data visualization software used to analyze the Excel data. Note the many worksheets on the bottom tab and the dimensions/measures on the left side used to segment the data.



## Appendix D.2

The end date for the listings had to be properly recorded and formatted in Excel to allow Tableau to properly leverage information to better understand timing patterns related to the listings.

