The Wheel of Retailing revisited: toward a "Wheel of e-Tailing?"

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ABSTRACT

A well-worn paradigm in marketing known as the Wheel of Retailing suggests that retailers evolve from low differentiation, low margin operations to high differentiation, high margin operations. This study utilizes archival data from the Internet auction site eBay to determine whether the pattern of development proposed by the Wheel of Retailing holds for business-to-consumer (B2C) e-commerce practitioners. Specifically, the study examines 1640 completed sales on eBay and compares the number of years each seller has been in practice to sales volume, whether the seller has an online store, the seller's feedback rating, whether the seller is designated as a "Power Seller," whether the seller has a "Me" page, and the sales price of the item sold. Seller experience was found to be significantly related to four of the six predictor variables, suggesting that, with limitations, eBay sellers do evolve in a pattern consistent with the Wheel of Retailing.

Keywords: e-commerce, internet retailing, e-tailing, wheel of retailing, differentiation, eBay, pricing, retail strategy, online retailing, online auctions.

INTRODUCTION AND BACKGROUND

One of the oldest paradigms in modern retailing is known as "The Wheel of Retailing" (WOR). The framework was developed in the 1950's in order to establish a theoretical basis for understanding the rapid growth and development of post-WWII retailers in western industrialized nations. As retail practitioners head into the second decade of the 21st century, there has occurred a similar, though less visible, growth and development based on the electronic platform known as the worldwide web. With more than a decade of robust online retail experience to observe, the question arises as to whether there might be parallels between the post-war boom in brick and mortar retailing and the more recent evolution of e-tailing.

The Wheel of Retailing was originally developed by Professor Malcolm P. McNair in 1958. McNair reasoned that when start-up retailers enter a consumer market, they operate under the premise of being low-price, low margin performers. They do this because it is the most cost-effective way to acquire as many customers as possible to make a mark in their competitive fields of choice. As a particular retailer acquires customers, he will come to the realization that not all customers are created equal. Thus, the retailer, as a matter of course, will seek out those customers who are loyal, buy often and are willing to pay for added value. Over time the retailer will tend to focus his business on these higher margin customers, leaving the lower margin customers to new market entrants (Hollander, 1960).

The Wheel of Retailing is one of the oldest theoretical constructs in the marketing discipline, and continues to be cited in marketing and retailing textbooks today (see, for example, Kotler & Keller 2009). The framework survived as a relatively unchallenged paradigm in the academic literature through the 1960's and early 1970's. As late as 1975 it was used to provide a theoretical foundation for identifying variables that were likely to contribute to a retailer "trading up" by offering a greater number of services (Goldman 1975). As new patterns in retailing began to emerge in the latter part of the 20th century, WOR came to be regarded less favorably as an adequate paradigm to explain many of the trends of that time. Kalkati (1985) pointed out that many high margin retailers, contrary to the pattern proposed by WOR, were lowering prices in response to the proliferation of big discounters entering the market. May (1989) pointed out that deficiencies were appearing in the framework based on the speed at which retailing was changing, the fact that many retailers were past maturity, and that there were retail forms that had come into being in a manner that was contrary to that predicted by WOR.

The emergence of huge discount bricks-and-mortar retailers such as Walmart and Home Depot in the late 20th century played a significant role in causing the Wheel of Retailing to become out of favor among academic researchers. These large retailers started out as large discounters, and maintained their identity as large retailers as time went on. Since they had become dominant in the marketplace with the strategy, it appeared WOR had lost its relevance as anything more than an historical oddity insofar as being a robust model for explaining and predicting retail behavior. By 1996 one of the WOR's strongest academic advocates concluded that "the number of nonconforming examples suggests that the wheel hypothesis is not valid for all retailing (Hollander 1996)."

One purpose of this research is to examine the more recent phenomenon of Internet-based retailing through the lens of the Wheel of Retailing and to determine whether WOR provides a theoretical basis for understanding the evolution of e-tailing since the late 1990's. Can this relic from the 1950's and 60's – a device so useful in bringing into focus the growth in post-war retailing -- be dusted off and be made useful again as we examine the growth of Internet Marketing some 50 years later? Whether the domain is real or virtual, there may be certain consistencies that occur, especially among smaller retailers, as businesses with limited

resources make decisions in an environment in which markets are expanding and opportunities developing.

With the advent of Internet retailing, many first-time business owners have turned to various auctions sites such as eBay to "get their foot in the door." These sites make it relatively simple to see if there is a market to sell the products a new business owner will provide, and at a minimal cost as compared to a bricks and mortar business. After nearly 20 years in business, Internet-based companies such as eBay may be showing signs of maturity indicative of a pattern predicted by WOR.

Other research indicates that sellers with positive track records at sites such as eBay and Amazon are able to command higher prices by virtue of the fact that posted feedback from previous customers adds value in the form of information as to how their businesses are performing in terms of product quality, delivery timeliness and other dimensions of importance to buyers (Gurtler & Grund, 2006). If this relationship between online seller standing and price is valid, then it stands to reason that as sellers mature, they would tend to "cherry pick" the more risk averse buyers who seek reassurance about seller reputation. This is particularly true when it comes to online auction sites because such sites have a reputation for being rife with unreliability and fraud (Li, Srinivasan, & Sun, 2009). Other forms of e-tailing are not immune from buyer concerns about safety, either, as research indicates that consumers are particularly wary when purchasing over the Internet; heavy shoppers are significantly more likely to analyze attributes such as trustworthiness when purchasing online (Chiou & Pan, 2009).

The original vision of the Internet was that it would create a "one world/one price" global marketplace in which there was virtually no information asymmetry between buyers and sellers. While the Internet has unquestionably closed information gaps that existed prior to its widespread usage by consumers, it has fallen well short of delivering market perfection, as retailers develop new and clever means of "obfuscation" that change customer focus from price to other dimensions (Ellison and Ellison 2009). What an economist terms "obfuscation" a marketer might call "differentiation." Nonetheless, the purpose remains the same: to discourage customers from engaging in further information search and to provoke them into paying higher prices.

THEORETICAL UNDERPINNINGS

The hypothetical reasoning of the Wheel of Retailing can be described as a simple syllogism of the following progression: (1) new retailers are more interested in gathering customers than in making profits; (2) older retailers are more interested in making profits than gathering customers; (3) the most efficient way to gather new customers is to charge a lower price; (4) therefore, as a retailer matures, it will become more focused on higher prices and profits, and less focused on gathering new customers. This logic is graphically expressed in Figure 1 (Appendix). The figure indicates that as time goes on, total sales will increase, the size of the average sale will increase at a greater rate than total sales, and that the number of potential customers within the market served by the retailer will decline. Size of potential market decreases for older e-tailers because they will tend to be focused on potential markets whose customers buy more frequently and want value added or differentiation that new e-tailers cannot, or do not, provide. Average sales price increases for older e-tailers because of the value added features or differentiation they provide. Total sales will increase for older e-tailers because of two factors: (1) higher average sales; and (2) larger number of transactions by virtue of experienced retailers capturing more attractive higher usage segments.

Ba, Stallaert and Zhang (2007) point out that e-tailers face a tremendous challenge compared to traditional brick-and-mortar retailers because consumers on the Internet have far

greater information available to them prior to making purchase decisions; and because of the sheer volume of competitors, charging the lowest price does not guarantee that any particular e-tailer will gain an advantage. Thus, e-tailers must develop a way to differentiate themselves with non-price attributes such as service quality and merchant brand recognition. This is no doubt a reality that Internet-based retailers discover over time. Since brand recognition, reputation and many other sources of differentiation take time to develop, it follows that more mature e-tailers would tend to be more focused on differentiating themselves than newer e-tailers.

Internet retailers must incorporate selling strategies that will allow buyers to sense the product in all aspects: visual, audio and kinesthetic. Sellers must be mindful that most of their customers are "goal-directed." Buyers usually have a specific buying objective in mind when they search for retail websites to purchase an item (Mathwick, Malhotra, & Rigdon, 2002). Another way for e-tailers to signal to consumers that they can expect higher levels of differentiation is to charge higher prices. Mitra and Fay (2010) suggested that the potential sources of differentiation available to online retailers were considerably fewer in number than those available to traditional bricks-and-mortar retailers. Thus, online retailers were more likely to use higher price to signal differentiation than their bricks-and-mortar counterparts. These researchers found that e-tailers at both ends of the spectrum were more likely to manipulate price in order to manage service expectations.

The importance of finding a source of competitive advantage early and using it to establish a strong customer base is emphasized in research by Pinguin and Talaga (2006), who found that early entrants to the Internet retail domain were able to more efficiently command higher customer share than late movers. This would be congruent with the WOR postulation that older e-tailers would be more likely to have established sources of differentiation than newer retailers.

As for cost and price-oriented e-tailers, there may be less opportunity to capitalize on having a lower cost structure than more established competitors. There is some evidence from extant research that cost-based competitors on the Internet are more likely to spurn expensive graphic interfaces and less likely to offer money-back guarantees (Li, Srinivasan, & Sun, 2009). Shipping and handling costs are another area where e-tailers may vary strategies. Under the assumption that buyers may be more focused on selling price, some discount Internet sellers charge inflated shipping and handling costs and recover some of the deficiency that might occur from charging a lower top-line price (Gurtler & Grund, 2006). There is also evidence that larger discounters are utilizing drop-shipping of standardized products to reduce shipping costs (Tsai & Hung, 2009).

Taking into the consideration the original paradigm and subsequent literature, the WOR predicts that there will be differences between experienced retailers and inexperienced retailers in terms of differentiation, volume and pricing. Experienced retailers will be more oriented toward higher differentiation as a source of competitive advantage; whereas, less experienced retailers will be more oriented toward offering lower prices and less differentiation. By virtue of their experience advantage, higher experienced retailers can be expected to have higher overall sales volume than less experienced retailers. However, the growth rate in margins would be expected to exceed the growth rate in sales. Less experienced retailers would be expected to have lower overall volume, with the growth rate in sales exceeding the growth rate in margins. By virtue of their greater dependency on differentiation, experienced retailers would be expected to have higher average sales and higher prices than their less experienced counterparts. These relationships are illustrated in Figure 2 (Appendix).

RESEARCH OBJECTIVE, METHODOLOGY, AND HYPOTHESES

The primary objective of this study is to examine the degree to which the Wheel of Retailing model might apply to e-tailers in the Internet environment; as it had in the past to retailers in the traditional brick-and-mortar environment. The underlying question focused upon is: to what extent, if any, does the Wheel of Retailing model have relevance to e-tailers and their sales evolution in terms of pricing, differentiation and volume?

In order to examine whether the relationships suggested by the WOR in the foregoing might hold in an authentic e-tailing environment, a number of Internet-based archival data sources were considered, including information from Internet retail sites such as Amazon, Tiger Direct and other online direct marketing firms. Unfortunately, much information regarding these sellers is kept proprietary and therefore is inaccessible. Ultimately, the best source of comprehensive retail transactional information for the purposes of examining Internet retail activity was found at the auction site eBay. This well-established online intermediary keeps extensive records about sellers, including their track records and levels of experience, and this data is readily available to buyers and the general public.

An ordinary least squares regression model was used to study the relationships between the variables. The eBay population of listings considered in our study included the broad array of products available on the site, with the exception of automobiles. A sample made up of 1640 eBay completed sales were selected at random. The large sample allowed for sampling from eBay's diverse population of listings and included sales of items ranging from an audio CD at 49 cents to a rare antique vase with a final price of $1750. Therefore, sales were represented from numerous and highly disparate eBay sales categories ranging from consumer electronics to fashion clothing. For each listing, values for seven seller-related variables were noted. These variables are: (1) The number of years the seller has been registered on eBay (YRS) which is our dependent variable; (2) The total number of feedbacks (FDBCKS) accumulated by a seller divided by YRS defined the variable VOLUME; (3) Did the seller operated an eBay store or not (STORE); (4) The seller's feedback rating (RATING); (5) Was the seller was an eBay Power Seller or not (POWSEL); (6) Did the seller have a "Me" Page (MEPAGE); and (7.) The sales price of the item sold (PRICE). Both quantitative and categorical measures were helpful in examining the research objective and drawing conclusions.

The WOR predicts that there will be differences between experienced retailers and inexperienced retailers in terms of differentiation, volume and pricing. For this study, we measured differentiation by whether experienced eBay sellers used differentiation tactics such as having an eBay store, qualified to be considered as a Power Seller and having an About Me page. Thus, we measured differentiation through STORE, POWSEL, MEPAGE variables. We measured a seller's volume through the variables VOLUME and RATING. Lastly, we measured pricing through the variable PRICE. The research hypotheses that relate to these differences are:

H1: Experienced eBay sellers will have higher annual sales volumes as measured by number of transactions than inexperienced eBay sellers, indicated by the variable VOLUME.

H2: Experienced eBay sellers will be more likely to have an eBay store than inexperienced eBay sellers as measured by the variable STORE.

H3: Experienced eBay sellers will have higher feedback ratings than inexperienced eBay sellers as measured by the variable RATING.

H4: Experienced eBay sellers will be more likely to have Power Seller status than inexperienced eBay sellers as measured by the variable POWSEL.

H5: Experienced eBay sellers will be more likely to have a "Me" page than inexperienced sellers as measured by the variable MEPAGE.

H6: Experienced eBay sellers will be more likely to sell items with higher prices than inexperienced sellers as measured by the variable PRICE.

The six hypotheses were tested using ordinary least squares multiple regression analysis with the variable YRS entered as the dependent variable and RATING, STORE, POWSEL, MEPAGE, VOLUME and PRICE as predictor variables. H1 was tested by examining the correlation between YRS and VOLUME. H2 was tested by examining the correlation between YRS and STORE. H3 was tested by examining the correlation between YRS and RATING. H4 was tested by examining the correlation between YRS and POWSEL. H5 was tested by examining the correlation between YRS and MEPAGE. H6 was tested by examining the correlation between YRS and PRICE.

RESEARCH RESULTS

A presentation of relevant descriptive statistics for the data can be found in Figure 3 (Appendix). As indicated by the differences between the means and medians for the variables VOLUME and PRICE, these two variables are somewhat skewed. Nonetheless, the statistical techniques used to analyze these data are robust (Hair 1992).

Figure 4 shows the correlation between the dependent variable, YRS, and each of the independent variables. The ranking of these correlations are: (1). PRICE, (2). MEPAGE, (3) RATING, (4) VOLUME, (5) POW, (6) STORE. Note that the most highly correlated variables PRICE, MEPAGE and RATING are associated with a seller's pricing, differentiation and volume, respectively.

Multicollinearity is an important consideration in this study and it does not appear to be present. The highest correlation between independent variables shown in Figure 4 (Appendix) is .448, which is moderate. When comparing different regression models equations using STEPWISE, the size and direction of the coefficients remain consistent. In addition, the rank of the coefficients based on their p-value is very similar to the ranking of the correlations shown in YRS column in Figure 4. Lastly, the variance inflation factor (not shown in Figure 4) for all independent variables is less than 3. All of these indicators lead us to believe that multicollinearity is not present, and therefore individual coefficients may be interpreted.

The assumptions made by ordinary least squares regression model appear to hold for our data set. The plot of residuals against predicted value shows a random scatter pattern. A histogram of the residuals and normality plot show the distribution to be symmetrical and mound-shaped, however some departure from the theoretical normal shape. However, as mentioned earlier ordinary least squares regression model is robust with respect to this assumption (Hair 1992). Thus, these indicators lead us to believe the data does not violate the least squares assumptions.

The multiple regression equation based on 6 independent variables yielded a multiple correlation coefficient, R, of .334 and a coefficient of determination, R-square, of 11.2 percent suggesting there are other variables beyond these that might be related to e-tailer longevity. The entire model, however, was regarded as strongly and significantly predictive of YRS (F=34.2, p-value=.4.49E-39 as shown in Figure 5).

Figure 6 (Appendix) shows that of the six predictor variables, only POWSEL was found to be below the .05 threshold for significance, however the sample showed the relationship based was positive. The variable, STORE, was significant, but was directionally inconsistent with the corresponding hypothesis. Of the five significant variables, the variable showing the greatest linearity to the dependent variable was PRICE and as indicated in Table 3 (Appendix).

The ranking of independent variables based on their p-value is PRICE, MEPAGE, RATING, VOLUME, STORE and POW similar to ranking of variables in Table 3 with the exception of POWSEL and STORE positions of 5th and 6th are reversed. POWSEL and STORE are moderately correlated which may be the source of the position reversal.

Overall, H1 (VOLUME), H3 (RATING), H5 (MEPAGE) and H6 (PRICE) are supported by our analysis. Thus, supports the WOR constructs of differences between experienced retailers and inexperienced retailers in terms of differentiation, volume and pricing. However, H2 (STORE) and H4 (POWSEL) as surrogates for the construct of differentiation are not supported.

DISCUSSION

Apart from the results reported in the previous section on our six research hypotheses, there are a number of interesting revelations regarding eBay and its evolution as an online retail facilitator that arose from the study. One was the degree to which larger sellers affect eBay's revenues, which underscores the company's shift in strategic direction from its traditional posture as an online auction site that secondarily offered fixed price merchandise, to a fixed price priced site that secondarily offers auction merchandise (Holahan 2008). With roughly 20 percent of the sellers accounting for about 85 percent of the firm's volume (nearly half the volume being accounted for by the top 5 percent), it is not surprising that eBay has embraced a business model that is more oriented toward maintaining price consistency and security than the turbulent and risk-oriented marketplace that typified its earlier existence.

The fact that VOLUME was very significant is not surprising since the variable was a ratio in which one of the components was the dependent variable. However, the fact that it was less significant than PRICE was very revealing since it indicates that as sellers gain in experience selling on eBay (and by extension, online) they engage in more transactions at higher average prices. This is consistent with retail evolution predicted according to The Wheel of Retailing paradigm expressed in Figure 1.

The fact that 43 percent of all sellers pay to maintain an eBay store (Table 2), where the merchandise is inventoried longer-term and sold at a fixed price, indicates that a large percentage of sellers are adapting to the new environment and operating more like traditional retailers. This necessitates that sellers maintain larger levels of working capital and endure higher turnover rates in exchange for improved margins. The Wheel of Retailing provides an explanation for this phenomenon, however STORE was not found to be significantly correlated to longevity, and in fact the model yielded a reverse relationship. One explanation is that eBay may more recently be attracting retailers that were previously selling on fixed price sites such as Amazon. If this is the case, these retailers would be newer to eBay but still quite experienced in online retailing.

Slightly more than a third of the sellers in the study were identified as "Power Sellers." In order to become a Power Seller, a seller must have sales consistently over one thousand dollars per month, 98 percent feedback rating, and average better than 4.5 stars (out of a possible five) on four service dimensions. This suggests that Power Sellers would necessarily be more focused on the service dimensions of their businesses than other eBay sellers.

Another interesting finding is that only 23 percent of the sellers utilized eBay's "About Me" page as shown in Table 2. The About Me page is a free feature that allows sellers to create an image for themselves and perhaps draw some distinctions between themselves and other eBay sellers. Since having an About Me page is free promotion, and given that less than a third of sellers use it, a majority of eBay sellers may not think non-price competition makes much of a difference on eBay. Consistent with WOR the ones that do tend to be more experienced as MEPAGE was a significant variable in this study.

The Wheel of Retailing appears to be a fairly robust and relevant framework for investigating the phenomena of e-tailer evolution, especially as it concerns the nature of small entrepreneurs who start on a shoestring and build their businesses from the ground up. This aptly describes the typical eBay seller, and so the model is a good one for investigating this particular subset of online retailers. There is, however, another group of online business-to-consumer (B2C) companies that begin with large sums from venture capitalists and start out as large, well capitalized firms with experienced management. The WOR would not be expected to yield much in studies concerning these operations.

Future research should focus on a number of areas, including: (1) identifying additional variables that might be related to e-tailer experience. Of particular interest are attitudinal variables such as opportunism, customer-service orientation and intentions regarding future strategic directions; (2) developing a more comprehensive framework that may better explain the broader range of e-tailers beyond those who do business on eBay; and (3) examining the question of e-tailer evolution based on any number of possible sociological or economic intervening factors, including such things as industry, the nature of the product, the size of the organization, the cost structure, and the corporate culture of the firm.

In conclusion, it can be said that the economic forces that propelled small, upstart bricks-and-mortar retailers in the 1950's were not entirely different from the forces that moved the small virtual world entrepreneurs of the late 1990's and early 2000's. Given limited resources, the desire to serve the most profitable customers and maintain higher margins would seem to be a sensible goal for the majority of e-tail practitioners. Nonetheless, the Internet retail marketplace is known to be highly price sensitive, which offers much less in the way of differentiation opportunities to retailers, particularly in industries where there is manufacturer brand trust (Ellison and Ellison 2009). In the face of this, the value of WOR as a basis for e-tail research may be more limited than its applicability to the bricks-and-mortar retailers of the past.

Entrepreneurs who are interested in developing a retail presence on eBay may find solace in the fact that as sellers gain experience they tend to move away from low-priced, low margin goods toward higher priced goods with more substantial margins. This provides opportunity for new entrants to serve bargain hunters with lower priced goods.

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APPENDIX

Figure 1: Wheel Of E-Tailing Evolution Of Sales

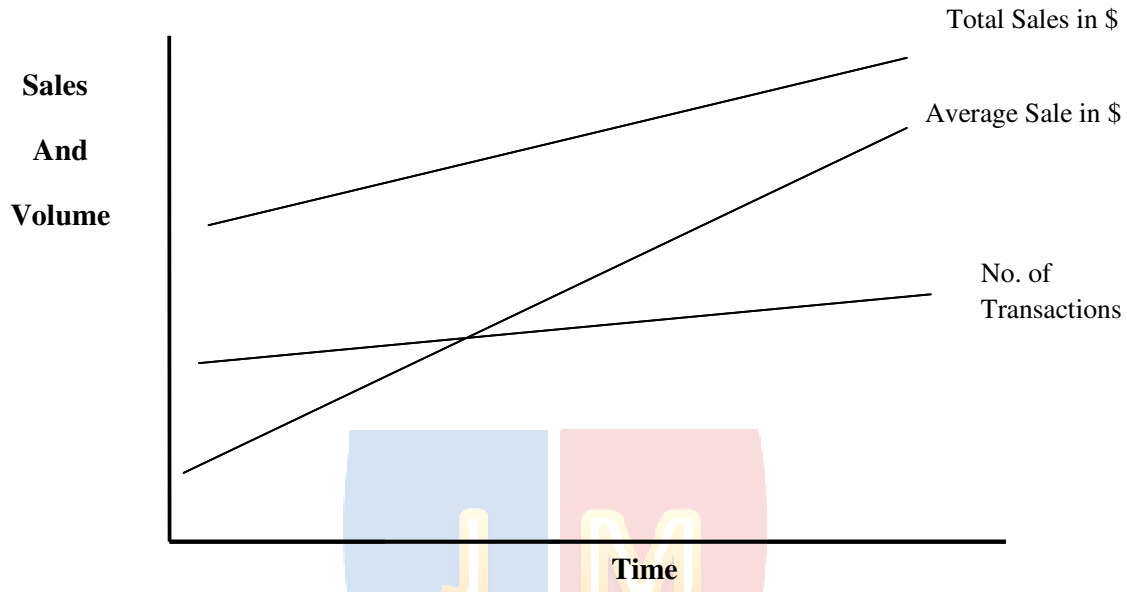

Figure 2: E-tailer Characteristics Based on Experience

E-tail Experience	Volume	Pricing	Differentiation
High	Lower number of transactions, growth rate of margins exceeds growth rate in volume	Average sale and average price above the mean relative to competitors	Primary marketing goal is to find and capture new sources of differentiation
Low	Higher number of transactions, growth rate of volume exceeds growth rate in margins	Average sale and average price below the mean relative to competitors	Primary marketing goal is to expand customer base

Figure 3: Descriptive Statistics eBay Sellers

VARIABLE	MEAN	MEDIAN	FREQUENCY
YRS	6.44	6.5	
VOLUME	1640	284	
STORE			.430
RATING	99.7	99.9	
POWSEL			.340
MEPAGE			.230
PRICE	50.5	15.25	

Figure 4: Correlation Table

VARIABLE	*YRS*	*RATING*	*STORE*	*MEPAGE*	*POWSEL*	*PRICE*	*VOLUME*
YRS	1						
FDBK	0.13884						
RATING	0.15501	1					
STORE	0.038851	0.035326	1				
MEPAGE	0.157274	-0.0234	0.448519	1			
POWSEL	0.06584	0.11274	0.288504	0.103545	1		
PRICE	0.23178	0.060479	-0.00907	-0.06307	0.059543	1	
VOLUME	0.075452	-0.11461	0.254771	0.299396	-0.02226	-0.04415	1

Figure 5: ANOVA

Source	*SS*	*df*	*MS*	*F*	*p-value*
Regression	2,425.5204	6	404.2534	34.20	4.49E-39
Residual	19,300.9698	1633	11.8193		
Total	21,726.4902	1639			

Figure 6. Individual Variable Mean Values and Regression Output

Hypothesis	Variable	Mean on YRS	Standard. Coefficient	T	p-value
H1	VOLUME		.068	2.72	.0066
H2	STORE YES STORE NO	6.61 6.32	-.076	-2.77	.0058
H3	RATING		.151	6.39	2. 17E-10
H4	POWSEL YES POWSEL NO	6.77 6.27	.039	1.59	.1127
H5	MEPAGE YES MEPAGE NO	7.02 5.93	.185	6.93	6.26E-12
H6	PRICE		.234	9.98	7.65E-23