

BRAND EQUITY'S RELATIONSHIP
TO PRODUCT FAILURE

by

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TO PRODUCT FAILURE

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ABSTRACT

Companies recognize that innovation is an extremely important aspect of continual market domination. Companies that fail to innovate, often fail. However little is understood of the relationship between a company's brand equity and the success or failure of its product innovations. This study seeks to explore the relationship between brand equity and product failures specifically the effect that brand equity has on the chance of product failure after launch in the primetime television market. Companies with higher brand equity are expected to have a higher chance of product successes. This hypothesis did not find support. Consequently, companies with lower brand equity were found to not have a higher chance of product success. This study also proposes that brand equity is not effected by product failures. Specifically the number of failures of a company does not affect the brand equity. This hypothesis found support. A discussion of these findings is presented below, along with directions for future research.

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INTRODUCTION

Product development and release is a major part of every business. Business that do not develop and release new products tend to not adapt to a shifting marketplace and fall out of favor with consumers. Notable examples include companies like Nokia and Kodak. Nokia was at one point was the largest mobile phone manufacturer in the world, but it did not focus on creating innovative new products and has since been surpassed by companies like Apple and Samsung. Kodak is another perfect example. Instead of focusing on developing new products and innovating in the product category of photography, Kodak maintained a strict focus on the production of film and film related cameras. Kodak has been destroyed by this focus and the accompanying lack of profitable, innovative new products.

A lot of research has been focused on finding what different factors contribute to success in product development and launch (Ernest, 2002). Research has been done on factors ranging from prototype testing to protocol of project definition prior to product development (Ernest, 2002).

The product development process has been broken down significantly. Ernest (2002) compiled an empirical survey of all research conducted on success factors surrounding product development and launch. Ernest's compilation includes over 100 individual papers written on various success factors of product development. Ernest

(2002) organizes these studies around the new product development process, the organization of the company, the culture, and the involvement of management.

Research of specific product failures was done by Brady, Connic, Fox, and Roehm. They looked at the effect of product failures on brand equity. Brady, Coninc, Fox & Roehm (2008) found that following product failures brands with high equity have higher satisfaction ratings than low equity brands, however the drop in satisfaction is more immediate. However, they did not examine if the brand equity itself had any effect on the success or failure of the product.

Liao and Cheng also looked into the effect of product failure on brand equity. Liao & Cheng (2014) found that high equity brands will have better post-failure brand evaluations than low equity brands. Also preannouncements vs. no preannouncements of by high equity brands will create larger drops in evaluations than low equity brands. Evaluations without the word of mouth of an opinion leader are worse post failure than evaluations with. They did not look to see if brand equity played a role in the success or failure of a product.

However, to date most studies have been focused on the factors pertaining to pre-launch activities and launch itself. Very little research has actually been spent on the relation between the brand equity of the company releasing the new product and the product's success rate. The objective of this study is to examine the aspects of the relationship between brand equity and product success or failure. For example, do brands with high equity have a better chance of having a successful product launch because the high brand equity signifies trust and credibility, so consumers will be more likely to try and like a new product with high brand equity? Does brand equity play no role in a

product's success or failure? Do product success or failures effect our perceptions of brand equity?

The difficulties faced with this process is isolating the effect of brand equity itself. Companies with high brand equity tend to be large companies with much larger product development, marketing, and launch budgets that their low equity counterparts. To achieve this studies goals, a case study database will be compiled and associations between low and high brand equity product launches will be examined.

LITERATURE REVIEW

Brand Equity

Brand equity is defined as the value that a brand name adds to a product when compared to a product with identical features (Liao & Cheng, 2014). Practically speaking, this would be the perceived difference between a Samsung phone and a phone with identical features. Keller (2003) has a similar definition, "brand equity should be defined in terms of marketing effects that are uniquely attributable to a brand" and further explains this definition by saying, "That is, brand equity relates to the fact that different outcomes result from the marketing of a product or service because its brand than if that same product or service had not been identified by that brand"

Brand equity can be broken down into multiple dimensions. Aaker (1991, 1996) defines brand equity of consisting of brand loyalty, brand awareness, perceived quality, and brand associations. Shoker and Weitz (1988) define the dimensions of brand equity as brand loyalty and brand associations. Keller (2003) defines the major components of

brand equity as brand awareness and brand associations. For the purposes of this study, brand equity consists of brand awareness and brand associations.

This means that high brand equity would stem from high awareness and positive brand associations. Conversely, low brand equity would be from very little awareness and negative associations.

Dimensions of Brand Equity

Brand awareness and brand associations are incredibly complex concepts. To better understand them, the definition and facets of each of these two components are laid out below.

Brand Awareness

Aaker (1996) defines brand awareness as “the salience of the brand in the customer’s mind”. This is an important component because without a basic awareness of the brand, customers cannot build brand associations or a concept of perceived quality of the brand. Awareness is the root of all consumer perceptions of a brand, and a prerequisite for strong brand equity as well as a component.

Keller (2003) further elaborates on brand awareness with the point that brand awareness consists of brand recognition and brand recall. According to Keller (2003)

“brand recognition relates to a consumer’s ability to confirm prior exposure to the brand when given the brand as a cue. In other words, brand recognition requires that consumers can correctly discriminate the brand as having been previous seen or heard.”

Brand recall, according to Keller (2003), is the

“consumer’s ability to retrieve the brand from memory when given the product category, the needs fulfilled by the category, or a purchase or usage situation as a cue. In other words, brand recall requires that consumers correctly generate the brand from memory when given a relevant cue.”

The literature on this subject defines a couple of advantages of brand awareness. Keller (2003) lists three specific advantages: learning advantages, consideration advantages, and choice advantages.

Learning advantages are the advantages of a brand with high awareness being able to easily form brand associations. Keller (2008) specifically talks about the fact that the first step to creating brand associations is for a brand to develop a memory node to attach those associations too.

Consideration advantages specifically refers to a brand having an advantage because it is part of a consumer’s consideration set, or in other words the set of products that a consumer seriously considers for purchase.

Choice advantages are gained by brands because they may be chosen as the item for purchase because the only association to that brand is simply that the consumer is aware of it. Keller (2003) says this advantage is most likely to be considered with purchases that take very little involvement

Brand Associations

According to Aaker (1991), brand association is “anything linked in memory to a brand”. According to Keller (2003) positive brand associations are strong, favorable, and unique. Keller (2003) defines strength as a function of both the amount of processing that information receives in addition to the nature of that processing. This function is effected by the personal relevance of that information and the consistency with which that information is presented over time.

Keller (2003) says, “In the most basic sense, favorable brand associations are created by convincing consumers that the brand possesses relevant attributes and benefits that satisfy their needs and wants”. Keller also says “favorable associations for a brand are those associations that are desirable to consumers and are successfully delivered by the product and conveyed by the supporting marketing program for the brand”.

Keller (2003) also discusses the fact that brand associations may be shared with competing brands. “The essence of brand positioning is that the brand has a sustainable competitive advantage or “unique selling proposition” that gives consumers a compelling reason why they should buy that particular brand” (Keller, 2003). Therefore, it is important for a brand to have unique brand associations.

Brand Equity Measurement

Because brand equity is so complex and intangible, its measurement is difficult. Brand equity has many facets. Below, Aaker (1996) defines ten brand equity measures. They are organized into measures of brand loyalty, perceived quality, brand association measures, brand awareness, and market behavior. Brand Loyalty, perceived quality, and

brand association measures are all facets of the larger component of brand association defined above, while brand awareness and market behavior can be considered part of the larger component of brand awareness. The difference in breakdown is due to differing conceptualizations of brand equity.

Brand Loyalty

Brand Loyalty is defined as “a deeply held commitment to rebuy or repatronize a preferred product or service consistently in the future, despite situational influences and marketing efforts having the potential to cause switching behavior” (Oliver, 1997). High brand loyalty means that there is a high chance of a consumer buying a specific product again, despite the marketing efforts of competitors.

Aaker (1996) gives two measures for brand loyalty: price premium and satisfaction/ loyalty. Price premium is the measure of how much more a customer will pay for a specific brand over competitor brands offering similar benefits. Price premiums can be both positive and negative. Aaker (1996) also suggests segregating customers in the market by loyalty, because mixing groups will cloud the true price premium in each group.

Aaker (1996) also provides another measure of loyalty as customer satisfaction. High satisfaction can indicate habitual use of a product. The issue with customer satisfaction is that it cannot be applied to non-customers. Customer’s need to use the product before they can determine their satisfaction.

Perceived Quality

Quality is the measure of superiority or excellence, so according to Zeithaml (1988) perceived quality is the judgment of a consumer about the products overall superiority or excellence. It is important to note that perceived quality is a consumer's judgment, so it is different from objective quality. However, Zeithaml also argues that objective quality may not exist due to the fact that all quality is perceived by someone, and that there is no truly objective measure of quality. What matters in this case, is that the quality is perceived by consumers.

Aaker (1996) suggests using scales to measure perceived quality ranking products from higher than average quality to lower than average quality. However problems exist in providing the right competitor frame of reference for customers. Additionally, customers should be segmented by loyalty.

Another measure of perceived quality mentioned by Aaker (1996) is leadership. He suggests measuring it with scales asking whether the brand is (1) a leading brand vs. one of the leading brands vs. not one of the leading brands; (2) growing in popularity; (3) innovative, first with advances in product or service. This measure has not been researched as fully as the other ones mentioned to this point, so there is very little evidence backing its use.

Brand Association Measures

Aaker (1996) breaks brand associations into three different measures: (1) brand value; (2) brand personality; (3) organizational associations. Brand value treats the brand as a product and asks customers to define the brand's value proposition. Aaker (1996) specifically lists "whether the brand provides good value for the money" and "whether

there are reasons to buy this brand over competitors” as two assessing measures. This measure does suffer to sensitivity to the frame of reference of the customer. Aaker (1996) also points out that there may not be a significant difference between brand value and perceived quality measures, but goes on to say that “perceived quality has a higher association with prestige and respect that a brand holds, while value relates more to functional benefits and the practical utility of buying and using the brand.” This measure will need to be carefully assessed on a case by case bases to determine if it is truly different then perceived quality.

Aaker (1996) also mentions brand personality. He summarizes this as treating the brand as a person. This measure gets at the brand’s emotional and self-expressive benefits. This measure is especially strong for “brands that have only minor physical differences and that are used in a social setting where the brand can make a visible statement about the consumer” (Aaker, 1996). Aaker (1996) goes on to list specific scales that can be used to ascertain a brand’s personality.

“Candidate scales might include:

- This brand has personality
- This brand is interesting
- I have a clear image of the type of person who would use the brand”

It is important to note that not all brands can be assessed as people and that brands that have strong brand value are not good candidates for brand personality tests.

Aaker’s (1996) final test of brand association looks at the brand from a organizational perspective, specifically the people, values, and programs. This measure is

particularly good for measuring brands when they have similar attributes, when the organization is extremely visible, or when looking at a large corporate brand. Aaker (1996) says that, “[o]rganizational associations that are often important bases of differentiation and choice include having a concern for customers, being innovative, striving for high quality, being successful, having visibility, being oriented toward the community, and being a global player”. This measure needs to be assessed on a company by company basis because it may not be a very strong measure for some product categories.

Brand Awareness Measure

Aaker (1996) breaks awareness into different strata: recognition, recall, top of mind, brand dominance, brand knowledge, and brand opinion. Recognition, recall, top of mind, and brand dominance are all varying levels of a brand’s awareness. Recognition signifies that a consumer has heard of the brand. Recall means that the consumer would remember a brand in the evoked set of a specific product category. Top of mind means that the brand is the prototype of a particular category. Brand dominance means the brand is the only one recalled (ex. Kleenex being the only facial tissue a customer can recognize). Brand knowledge involves customers knowing the message of the brand. Brand opinion means that customers have an opinion about the brand.

Aaker (1996) cautions that this measure is difficult to compare across brands and categories. For some brands recognition level is important, but for others brand dominance is more important. Also it is important to measure the brand name and associated imagery, not just name.

Market Behavior

Aaker (1996) also recognizes market share and market price and distribution coverage as measures of brand equity. These two measures should be used together to assess the brand's market behavior, and are much more powerful when both are included. Market share is a measure of the amount of the total market that buys from a specific brand. Market price and distribution coverage measures the percentage of stores carrying the brand or the percentage of people who have access to it.

Product Creation and Launch

New Product Development

Related literature in this field assesses product success and failure, and the factors that lead up to it. Ernest (2002) breaks it into two parts: new product development and product launch. Ernest (2002) summarizes the empirical data when he says "Four aspects have a positive influence on the financial success of a new product: (1) clear definition of the product before development begins [...] (2) high quality preparatory work on the project, in which the idea is initially broadly defined – subsequently more detailed technical and market-oriented feasibility studies, along with a commercial evaluation of the NPD project must be conducted; (3) clear orientation of the NPD process to market demands, principally in the form of market research activity and the observation of the competition; and (4) the existence of a high-quality NPD process."

Product Launch

Product launch is the actual release of a product into the consumer market. Launch strategies vary widely. Bhalla (2013) specifically identifies a waterfall or sequential launch and the sprinkler or simultaneous launch. Sequential launch "allows

subsequent customers to observe the decisions of prior customers, thereby assisting them in assessing its value” (Bhalla, 2013). Simultaneous launch happens in all markets at the same time allowing revenue generation from all possible customers.

Bhalla (2013) finds that the optimal launch strategy is sequential with a lowering average optimal price over time. Simultaneous launch is only desirable if the product has a high assessable probability of success. For the purposes of this paper, a product launch is the release of a product into a market.

Schneider & Hall (2011) five major flaws of product launches. (1) The company can't support fast growth; (2) The product falls short of advertising claims (3) The new item exists in “Product Limbo” which refers to a product's benefits not being able to sway buyers to it's buy it because of it's specific benefits; (4) The product defines a new category and requires substantial consumer education, but doesn't get it; (5) The product is revolutionary, but there's no market for it.

Subsequent Product Performance

Product Failure

Product launch is easier to identify than product success or failure. Both are very subjective and depend on the company. Product success or failure cannot purely be identified as the revenue generated by the product, or even the revenue generated by the product in relation to other products in its field. Also net profit cannot be used due to the variation from industry to industry. A definition must be determined that is flexible enough to allow for failure to be recognized across industries.

Product failure has various definitions. Crawford (1977) compiles various studies definitions of product failure. Crawford (1977) lists “went into test market but never went national” and “[d]isappearance from store shelves” as possible definitions, but says “the best approach passed the responsibility of the definition to marketing management asking them to say whether a product failed to meet expectations. Abandoned products fail, but so do many low-profit products even though they are kept in the line, since they would not have been marketed had the outcome been predictable”.

For the purposes of this study, a product going into test marketing, but not going on to launch at all or nationally would be considered a failure. A product disappearing from store shelves will be considered a failure only if that disappearance is quickly enough to warrant it being considered a failure. This will be assessed on a case by case basis due to the fact that shifting economic climates and cultural attitudes cause products to lose relevance in their market. Naturally, these products should be taken from shelves. However, these products might have reached targets and performed as expected. When information is available, information on whether the product failed to meet expectations or met expectations will also determine whether the product is deemed a failure or not.

Product Success

For the case of this study, a successful product will be defined as one that has been launched and has met management expectations. Meeting management expectations will be determined on a case by case basis. Strong indicators can include just a launch to a full product cycle. It is important to note that these two categories are completely exhaustive. All products that are not deemed a failure will be considered a success. Case

where there is not enough information yet to determine a product's status as either a failure or a success will be excluded.

PRIMETIME TELEVISION MARKET

To measure the association between brand equity and product failure, this study used primetime television. Traditional Primetime television is defined as the block of shows spanning from 8:00 PM to 11:00 PM East Coast time, Monday through Friday (“What Time Is Really Primetime”). The idea is that most television watchers come home from work and sit down to watch television at this time since it is after the end of the workday and the traditional American dinner time, but before bed. Primetime television has traditionally been dominated by the five major American television broadcasting networks were used as the companies to issuing new products. These networks were: American Broadcasting Company (ABC), Columbia Broadcasting System (CBS), National Broadcasting Company (NBC), Fox Broadcasting Company (Fox), and the CW Television Network (CW).

In this market, companies buy 30 second advertising spots from broadcast networks that are aired at commercial breaks of television shows with the purpose of reaching consumers with a message. Broadcasting networks are selling access to consumer groups through their shows. The product is the audience that the television show attracts, and the customer is the company. Each television show is considered a product. Products can continue to run for multiple seasons, or only air for one season.

Primetime Television was chosen because information could be easily obtained about whether products failed or not. In this study, a show was deemed a failure if it

didn't come back for another season. This clearly meets the definition of not meeting expectations since managers have chosen to refuse to invest additional funds into the production of another season of the show.

Also, primetime television is a good market to explore because of the rapid launch and subsequent failure or success of shows. Over 300 shows aired from 2008 to 2014 during the primetime television slot. The abundance of data makes it a good market for the use of regression equations to explore various correlations.

Ratings Measurement

For this study, Nielsen ratings were used. In the Nielsen rating point system, one point is equivalent to one 1% of the specific Nielsen Universe being measured. The specific universe used to acquire ratings was the 18-49 year olds demographic ("Numbers 101"). For the purpose of this study, ratings were pulled from the site tvbythenumbers.zap2it.com which publishes each year's ratings, viewers, and average ad spot from Nielsen.

Viewer Measurement

The number of viewers breaks this out into the total number of viewers watching a specific program but does not put the number in a specific Nielsen Universe. Instead it just lists the total number of viewers.

Research Design

To study the relation between brand equity and product failure, product data was compiled on primetime television programs. For the purpose of the study, thirty second ad spot cost on various programs was used as the measure of the relation between brand

equity and failures. Records were created on primetime television shows recording network, ABC, CBS, NBC, Fox, and CW, thirty second ad spot costs, times, ratings, and viewers. Data was gathered on each of the shows as an individual record. 679 individual records were created spanning the time period between 2008 and 2014 for ad spots and ratings covering 312 shows. Ratings could not be acquired for 2014 due to the recent nature of the information. Each record lists out the name of the show, the network that it aired on, the year, the day, the time, the Nielsen rating it received, the Nielsen viewers, the ad rate of the show, and the number of seasons the show aired for in total.

After reviewing the data, thirty second ad spot costs were determined to be a function of previous year's ratings, brand equity of the station, and the number of failures that the network experienced the previous year. Using this formula, conclusions can be drawn between firm brand equity and product failures

Brand Equity

Model

First, a regression equation for thirty second ad rates was estimated with the previous year's ratings of the show, if there were any, and dummy variables indicating which network the show was aired on. CW was considered the control of these dummy variables. The following equation was estimated:

$$z = a + b_1 (\text{PrevRating}) + b_2 (\text{ABC_Dummy}) + b_3 (\text{CBS_Dummy}) + b_4 (\text{NBC_Dummy}) + b_5 (\text{Fox_Dummy})$$

Where:

Z is the cost of a thirty second ad spot on a major channel

A is the slope intercept of the estimated regression equation

PrevRating is the previous year's ratings of the show, if available. If the Previous year's ratings were not available the data was excluded from the regression equation.

ABC_Dummy is the dummy variable for ABC.

CBS_Dummy is the dummy variable for CBS.

NBC_Dummy is the dummy variable for NBC.

Fox_Dummy is the dummy variable for Fox.

Results

The regression equation was run in IBM SPSS.

R – This is the correlation coefficient. It ranges from -1 to 1 where -1 is a negative correlation, and 1 is a positive correlation. R is used in the comparison of models. A higher R means a better correlation in the model between the regression equation and the thirty second ad spot value being predicted.

R² - This is the coefficient of determination. It is represented as a percent and is another measure of the correlation of a model. An R² of 0% is no correlation, whereas the higher the R² the better the model is at predicting the outcome.

Figure 1a: Model Summary

Model	R	R Square	Adjusted R Square
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1	.683 ^a	.466	.458
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a. Predictors: (Constant), Fox_Dummy, PrevRating, NBC_Dummy, ABC_Dummy, CBS_Dummy

After running the regression, the model has an R of .683 and a R² of .466. This means that we can determine that the regression fits the data with a positive correlation, and that it explains about 46% of the variation of the data.

The outcome of the regression is displayed in Figure 1b. All of the variables were determined to be significant. The following values were shown as the beta coefficients.

$$B_1 = \$26,271.45$$

$$B_2 = \$15,574.34$$

$$B_3 = \$57,065.52$$

$$B_4 = \$48,709.59$$

$$B_5 = \$110,598.91$$

Figure 1b: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	26271.453	8865.900		2.963	.003
	PrevRating	15574.342	1430.958	.464	10.884	.000
	ABC_Dummy	57065.523	10971.784	.338	5.201	.000
	CBS_Dummy	48709.593	11163.653	.296	4.363	.000
	NBC_Dummy	44194.177	11588.327	.221	3.814	.000
	Fox_Dummy	110598.908	11553.340	.578	9.573	.000

a. Dependent Variable: AdRate

Implications

After examining the results of the regression model, all of the variables used to create the model are significant. Furthermore, the dummy variables for the broadcast companies provided added monetary value above and beyond that of just ratings. This supports the idea that different prime time television networks have different brand equity, since different monetary values are purely associated with the broadcast company that aired the show. The largest bump was received by Fox and accounted for an increase in thirty second ad spot cost of \$110,598.91. Conversely the intercept is the brand equity of the CW which was \$26,271.45.

Brand Equity and Product Failure

Next, a regression equation was modeled including the network's previous year's product failures. This model included the previous variables, with the CW as the control for the regression equation, and the added variable of previous year's product failures. This was included to see if it had any effect on the next year's thirty second ad spot rate.

Model

The equation was estimated as:

$$z = a + b_1 (\text{PrevFailure}) + b_2 (\text{ABC_Dummy}) + b_3 (\text{CBS_Dummy}) + b_4 (\text{NBC_Dummy}) + b_5 (\text{Fox_Dummy}) + b_6 (\text{PrevRating})$$

Where:

Z is the cost of a thirty second ad spot on a major channel

A is the slope intercept of the estimated regression equation

PrevFailure is the previous year's failures of the specific network running that show.

ABC_Dummy is the dummy variable for ABC.

CBS_Dummy is the dummy variable for CBS.

NBC_Dummy is the dummy variable for NBC.

Fox_Dummy is the dummy variable for Fox.

PrevRating is the previous year's ratings of the show, if available. If the Previous year's ratings were not available the data was excluded from the regression equation.

Results

The regression equation was run in IBM's SPSS.

R – This is the correlation coefficient. It ranges from -1 to 1 where -1 is a negative correlation, and 1 is a positive correlation. R is used in the comparison of models. A higher R means a better correlation in the model between the regression equation and the thirty second ad spot value being predicted.

R² - This is the coefficient of determination. It is represented as a percent and is another measure of the correlation of a model. An R² of 0% is no correlation, whereas the higher the R² the better the model is at predicting the outcome.

Figure 2a: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
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1	.667 ^a	.445	.431	56236.320
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a. Predictors: (Constant), PrevRating2, PreviousYearFailures, Fox, NBC, CBS, ABC

The estimated model has an R of .667 and a R² of .445. The regression fits with a positive correlation and explains 38% of the variation of the data. This model has a lower rate of correlation than the previous model just explaining brand equity.

Figure 2b: Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	24210.656	12896.003		1.877	.062
PreviousYearFailures	1376.961	2568.155	.036	.536	.592
ABC	58132.723	15467.320	.346	3.758	.000
1 CBS	48077.948	14379.769	.283	3.343	.001
NBC	31761.750	16265.600	.162	1.953	.052
Fox	113576.372	14708.139	.590	7.722	.000
PrevRating	13768.015	1854.195	.408	7.425	.000

a. Dependent Variable: AdRate

Figure 2b provides the coefficients of the variables as:

$$B_1 = \$1,376.96$$

$$B_2 = \$58132.72$$

$$B_3 = \$48,077.94$$

$$B_4 = \$31,761.75$$

$$B_5 = \$113,576.37$$

$$B_6 = \$13768.015$$

Interpretation:

When creating a model that accounts for both equity and failures, the dummy variables representing equity were still significant, but the variables representing previous year's failures were not significant in the ad spot revenue.

Model

Since product failure is a binary event, in this case it could be represented as 1 being a product success or a television show stays on for more than one season, or 0 a television show fails and is taken off the air after one season, it is possible for a logistic regression to be run in this case. Using the data gleaned from the previous two regressions about brand equity, the broadcasting companies can be separated into high and low equity companies. The difference was drawn at a brand equity of \$50,000 in for the dummy variable in the first regression equation. Therefore, Fox and ABC were deemed to have high brand equity and CBS, NBC, and CW were deemed to have low brand equity. Using these two variables logistic regression was run to see the effect that a binary brand equity variable had on a binary success/failure variable.

Results

The logistic regression was run in IBM's SPSS.

Figure 3a: Case Processing Summary

Unweighted Cases ^a		N	Percent
	Included in Analysis	429	100.0
Selected Cases	Missing Cases	0	.0
	Total	429	100.0
Unselected Cases		0	.0
	Total	429	100.0

a. If weight is in effect, see classification table for the total number of cases.

Figure 3b: Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a BrandEquity	-.268	.279	.924	1	.336	.765
Constant	1.946	.199	96.084	1	.000	7.000

a. Variable(s) entered on step 1: BrandEquity.

Figure 3a shows that 429 cases were used for the analysis. Figure 3b shows variable calculated for brand equity has a significance of .336 meaning that it is not a significant predictor of success or failure.

Interpretation

This supports the previous regression equation's analysis of product failure in relation to brand equity. The logistic regression shows us that brand equity is not a significant predictor of product failure in this data set.

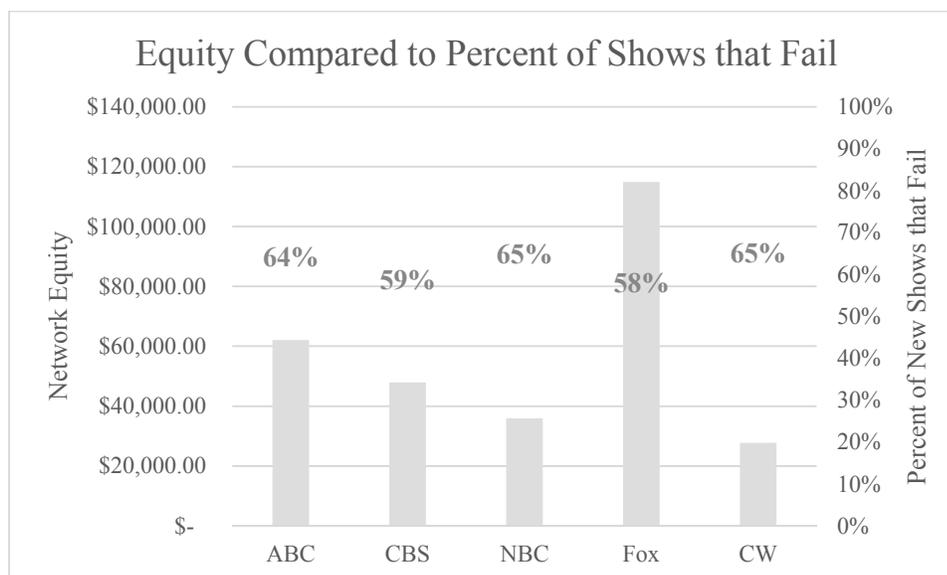
Additional Considerations

Using the previous regression, a comparison between company equity and the percent of shows that failed in the 2008 to 2014 timeframe can be compiled. The following chart, Table 1, compares network equity to the number of shows launched, the number of shows that failed, and the percentage of new shows that failed

Table 1: Network Equity and Shows Launched from 2008 to 2014

Network	Equity	New Shows Launched	Number that Failed	% of New Shows that Failed
ABC	\$ 62,014.67	59	38	64%
CBS	\$ 47,943.17	34	20	59%
NBC	\$ 35,875.00	63	41	65%
Fox	\$ 114,841.92	43	25	58%
CW	\$ 27,794.44	26	17	65%

The table above supports the previous conclusion that equity does not have a significant effect on product failure rate. In fact, all five networks had a very similar product failure rate that ranged between 58% to 65%. Chart 1 below visually represents this.



Differences from Other Markets

Primetime television has some major differences from other major product markets. The beginning stages of the product development process are for the most part similar. Product ideas are generated in much the same way, but the testing process is

radically different than other markets. Extensive test markets cannot be performed in the primetime television markets.

Another major difference is the number of new shows introduced each year. In total the percent varies from 30% to almost 40% with some individual networks reaching 65%. This is an incredibly high turnover of product offering. Table 2, below, shows the number of shows launched each year as a percent of the total shows aired during primetime television.

Table 2: Number of Shows Launched as a Percent of Total Shows Aired

	2008	2009	2010	2011	2012	2013	2014
ABC	21%	52%	21%	36%	36%	43%	32%
CBS	23%	19%	29%	22%	14%	21%	27%
NBC	42%	40%	50%	36%	45%	35%	65%
Fox	21%	31%	27%	38%	33%	33%	46%
CW	43%	25%	30%	40%	27%	50%	27%
<i>Total</i>	30%	36%	31%	34%	34%	35%	39%

Another major difference is the average failure rate. The data compiled for this study led to an average failure rate of 62%. According to Castellion and Markaham (2012), product failure rates hover around 40%. Obviously there is a significant difference between the average rate and the rate of failure in the television market. This could stem from the fact that it is hard to test the commercial feasibility of new television shows.

Another major difference is the guarantee of a new product getting a spot in front of end consumers. New shows are guaranteed a show time on the network that produces

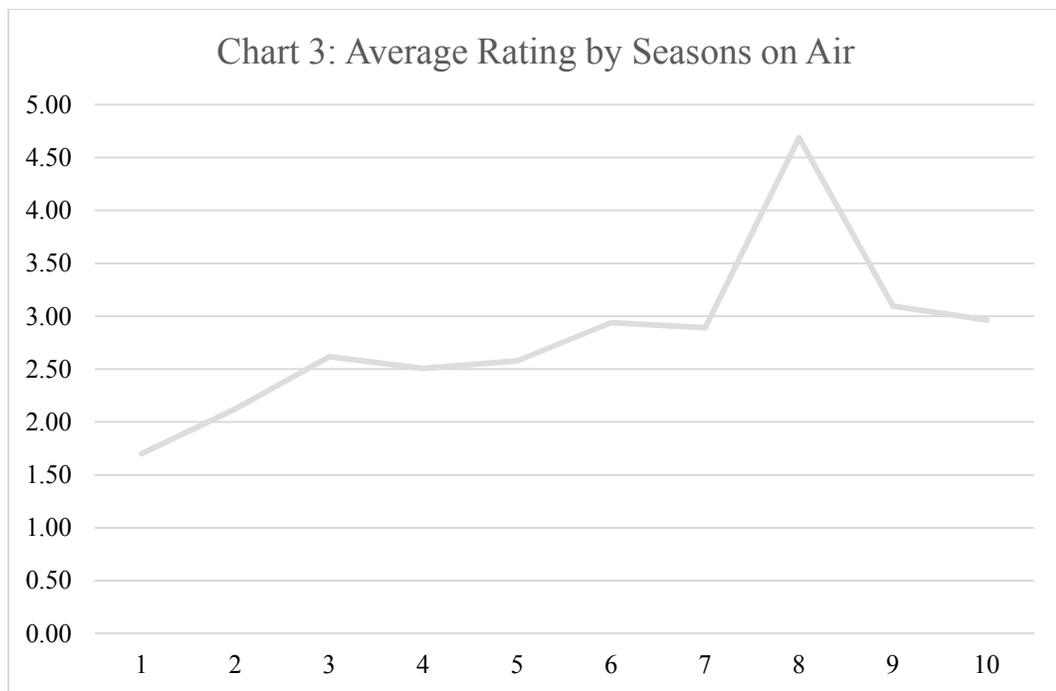
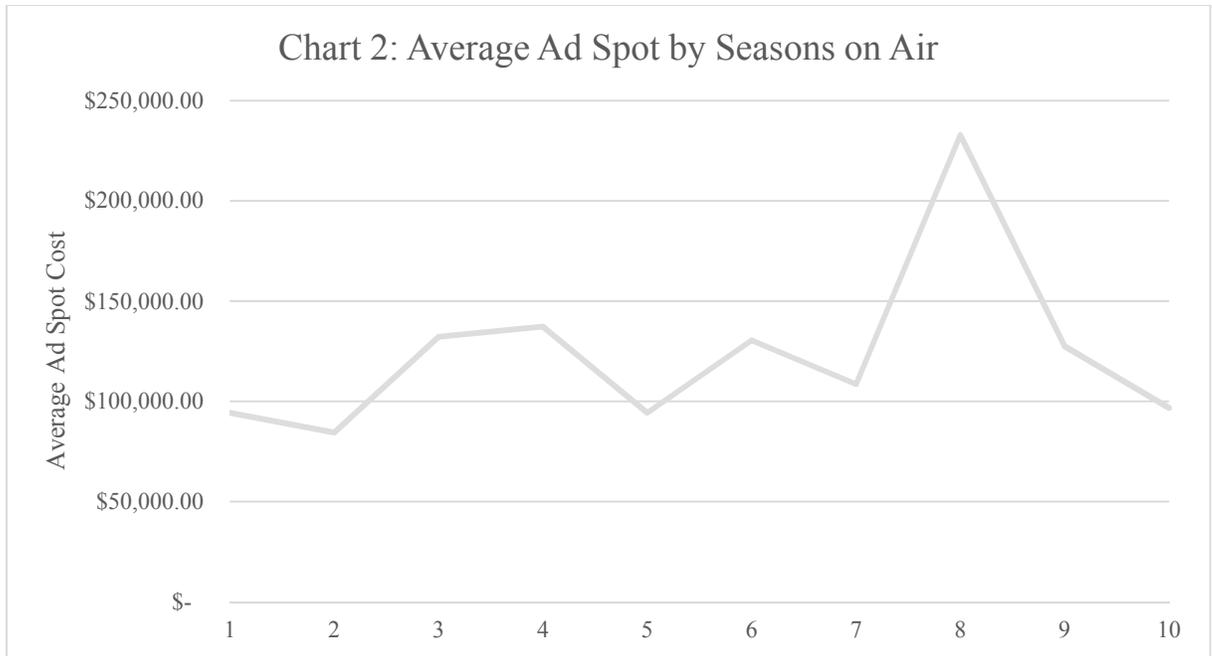
them. This is not the same in other markets, especially the consumer packaged goods market, where products may not get a spot on store shelves.

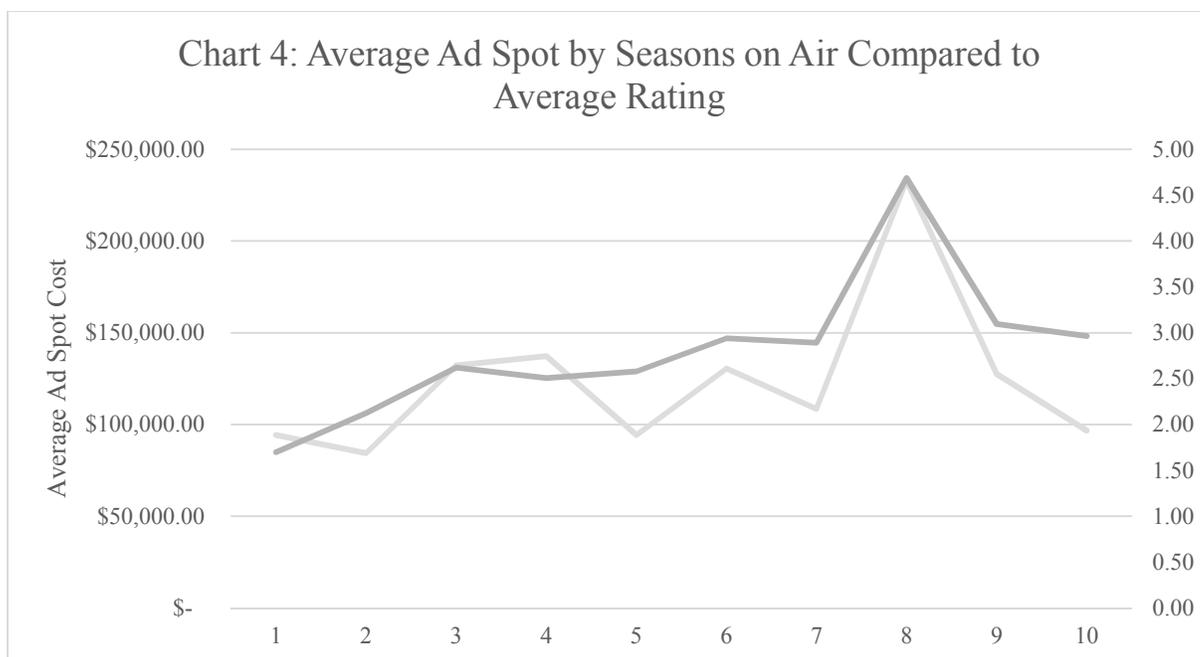
Similarities to Other Markets

However the primetime television market is similar in the respect that it does meet two types of customer needs. Television shows have the unique position of satisfying both major customer groups. They are created and marketed towards the general consumer population. However, ad spots are sold to other businesses.

Another major similarity is the fact that even though the product lifecycle for television shows is shorter, it is still the same product life cycle. The seven years of data compiled for this study represent over 300 shows and 141 failures. This means that the analysis is robust.

Also, the television shows themselves tend to follow the same product life cycle curve. Chart 2 shows the average ad rate for shows by their season. Ad rates tend to be low, then increase around the middle of the show's life, then taper off. Show Ratings by season, follow a similar trend. Chart 3 shows average rating by season, and Chart 4 superimposes the two over each other.





CONCLUSION

This analysis would support the previous research into brand equity. It seems that customers assign additional value to a network above and beyond what can be accounted for purely by the benefits of the product. Since both regressions accounted for ratings, which would be the data that marketers have available when purchasing ad spots for the coming year, the premium that marketers are willing to pay for a spot on Fox or ABC over that of what they would pay for a spot on CBS, NBC, or CW was significant.

However, brand equity does not necessarily effect whether products succeed or fail. The product itself is more important when determining success or failure. Both linear and logistic regression equations did not show brand equity as a significant variable in product failures or successes.

More importantly, this analysis suggests that product failures, within the normal industry expectations, don't actually effect brand equity. Broadcast television companies with high and low brand equity still had a very similar percentage of failures. This means that the value that customers ascribe to a brand is pretty resistant to failure by the company's ability to produce successful products.

ADDITIONAL RESEARCH

Additional research in this area should look to expand on other primetime television networks. This will allow for analysis of more, lower brand equity networks to see if the conclusions reached in this study are supported in other studies. Additional research should be done on other industries to see if the conclusions hold true in other industries, particularly consumer products industries. Different industries might have different perceptions of failure so the conclusions reached here, might not hold true.

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