THE IMPACT OF NECESSITY ON CONSUMER BEHAVIOR

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ABSTRACT

THE IMPACT OF NECESSITY ON CONSUMER BEHAVIOR

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I find that a bad reputation is not necessarily bad for business. I argue that a bad corporate reputation is less likely to hurt sales of tangible goods than intangible services, because assessing quality for the latter is inherently difficult and customers often rely on seller reputation to choose providers. I also argue that a necessary product is less likely to be adversely impacted than a discretionary one because in many cases the customers cannot avoid purchase of the product.

I find that product necessity strongly affects consumer opinions and behavior. I argue that consumers “like” firms that offer products they want more than firms that offer products they need but that these opinions do not necessarily drive purchase behavior. I partition firms included in a well-established, corporate reputational survey into those that offer basic needs, perceived necessities and discretionary products. I find that consumers rate firms that offer discretionary products higher than firms that offer necessary products. Despite this tendency, firms that offer discretionary products and necessary products have similar profitability.

Lastly, while consumers dislike price increases, they are more likely to repurchase basic needs than perceived necessities or discretionary products, arguably because they have no choice for the former

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CHAPTER 1

INTRODUCTION

1.1. Background and Problem Statement

Understanding consumer behavior is fundamental to company marketing practice and public relations. Firms develop marketing strategies by appealing to the wants and needs of consumers. Marketing research historically categorized products as utilitarian (necessary) or hedonic (discretionary) to empirically study consumer purchase decisions. Little empirical research is available on how product necessity affects consumer opinion and purchase behavior. This dissertation assesses the influence of product necessity on consumer perception of the firms providing them, consumer repurchase decisions, and the profitability of these firms.

Marketing professionals and academics often call products that fulfill the basic physiological and safety needs described in Maslow's (1943) hierarchy of needs "utilitarian" or "necessary." In recent years however, consumers view formerly luxury goods and services as "necessary," particularly in more developed countries and those where income has risen unequally. For example, only rich people could once afford home computers or high speed Internet, but today they are affordable and considered necessary by many U.S. residents. "Perceived necessity" (Sharma, Shimp and Shin, 1995) arises when a person considers a good or service to be (personally) necessary to function in his/her economy. This consumer judgement may vary by country, culture, as a function of the economy, or even over time. This concept departs from Maslow's (1943) hierarchy of needs used to define "necessary" in much of the existing research. This new perspective, along with the understanding that an individual consumer's perception of a product may change over time or as a function of the health of the economy, could alter inferences from prior research regarding the role of necessity.

Current consumer researchers poorly understand how necessity affects consumer opinions and purchase decisions, and ultimately, firm profitability. This gap is significant because necessity is a primary driver of consumer behavior. The underlying questions are therefore important to academics who research this topic, consumers who purchase goods, public relations departments attempting to address a crisis, and firms that develop marketing plans in order to sell to consumers.

1.2. Reputation

Despite extensive research showing that a good reputation plays a critical role in business success, the converse proposition that a bad company reputation hurts growth and profitability is not well studied beyond crisis situations. The existing literature suggests that firms need a good reputation without exception or they will suffer bad consequences.

The concept of reputation is not new. Over 2000 years ago, Socrates is attributed with saying, “The way to a good reputation is to endeavor to be what you desire to appear.”[1] The business construct of reputation is not new either. In the early 1900s, Henry Ford pointed out, “You can't build a reputation on what you are going to do.”[2]

Reputation is often described as one of a company’s most important assets and is perhaps the easiest asset to be damaged or lost (Vallens, 2008; Camara, 2011; Helm, 2010). In the age of social media when “Tweets” and “Likes” can influence consumer behavior in a heartbeat and with nearly a billion Internet sites always at your fingertips,

[1] http://www.quotes.net/quote/936
[2] Posthumously quoted in *International Encyclopedia of Prose and Poetical Quotations* (1951) by William S. Walsh.

reputation can be quickly damaged.

The emphasis on reputation in business and associated research has increased in the past few decades. From 1980 to 2008, English language book references to the terms image, brand and reputation increased between 25% and 222%.[3] Companies spend billions of dollars on brands, corporate image and reputation. Public relations departments obsess over survey results, advertising departments develop multi-million-dollar marketing campaigns and CEOs espouse their social responsibility programs, customer commitment and transparency to develop and maintain a positive reputation. British Petroleum announced that it would spend over seven hundred million dollars to restore its reputation after the 2010 Gulf of Mexico oil spill disaster.[4] In the view of Milton Friedman (1970) however, firms should only spend money with the intent to increase profits. Companies torn between living with or improving a bad reputation may find it difficult to choose when the profit impact of such efforts is uncertain.

Different stakeholders assess firm reputation using different inputs. A customer may emphasize the reliability of a good or service, an employee may focus on work culture and promotion practices, while an investor may concentrate on the consistency of historical dividend payments or stock returns. Each perspective is important to a firm; however, this paper focuses on how a bad company reputation affects consumer behavior because it is consumer purchases of goods or services that underlie profitability.

Research has demonstrated a positive relationship on average between reputation and firm performance. However, many firms with bad reputations perform quite well and

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[3] http://tinyurl.com/lllbzmt
[4] (Sustainability Review 2012, http://www.bp.com/en/global/corporate/sustainability/reporting/sustainability-report/sustainability-report-archive.html).

others with good reputations do not. The proposed research will test for the sign and magnitude of the relationship between a bad reputation and subsequent profitability. I also test whether product tangibility (goods versus services) and product necessity moderates the relation between reputation and profitability.

1.3. Consumer Opinion and Decision Making

In the marketing world, the categories of necessary and discretionary products have long been regarded as “absolutes,” with necessary goods filling a utilitarian role by meeting basic, practical or fundamental needs. Once these basic needs are met, consumers pursue discretionary or luxury goods in accordance with Maslow’s (1943) hierarchy of needs to fulfill a hedonistic desire for pleasure, feelings of self-worth, achievement and social status. When consumers occasionally stray from this purchase pattern, they are often labeled impulsive, irresponsible, or “shopaholics” as if some disease caused them to violate behavioral norms. A disruption to expected consumer behavior and the associated marketing model adopted by firms could have significant consequences for companies that market and sell hedonic and utilitarian products.

Researchers have begun to explore the concept of perceived necessity and its implications for some new and unexpected behaviors of consumers (Norris and Williams, 2016). What is less well understood is the impact that (perceived) necessity has on the *firm,* including consumer opinion and decision making and the relative profitability of firms based on the type of products they offer.

Failure by a firm to recognize consumer perception of the company’s product could have dire consequences. Firms that offer necessary products may find themselves answering to angry consumers, battling consumer activism and unfavorable media coverage or being scrutinized by the government regarding their marketing and pricing tactics. Recent U.S. Congressional and Department of Justice probes of drug price increases and regulation of drug advertising are prime examples. However, a price increase of a discretionary good (particularly a luxury) would not only be unlikely to draw government attention, it could actually increase demand for the product.

I compare the profitability of firms that offer necessary and discretionary goods and services. I then assess the consumer reaction to price increases of necessary and discretionary products and how likely consumers are to repurchase those products after a price increase.

CHAPTER 2

LITERATURE REVIEW

2.1. Perspectives on Necessity

According to annual surveys by the Pew Research Center (2009), in 1996, 32% of Americans considered a microwave oven to be a necessity. By 2006, about 68% of the population considered it to be necessary, but then, only three years later, less than half (47%) of Americans considered it to be necessary. In 2009, 60% of the respondent's aged 18-29 considered a cell phone to be a necessity whereas only 38% of those 65 and older felt the same. How can necessity vary so much by year or from person to person?

2.1.1. Maslow and Necessity

Necessity (of goods and services) can be defined by Maslow's (1943) hierarchy of needs (Kemp, 1998; Oleson, 2004; Norris and Williams, 2016), which attempts to explain what motivates people and, in turn, the choices they make. This is a good baseline for undeveloped/poor economies (Huddleston, Good and Stoel, 2001), but is less descriptive for developed economies. Maslow argues that human beings desire more than just things for biological survival. They also desire tangible and intangible items that support mental growth and personal fulfillment. The difficulty with using Maslow's theory to define consumer products is that it is based on a psychological study that was focused on understanding human motivation. It blends needs and wants into the same model with the needs heavily represented by tangibles and the wants more reflective of intangibles. While this simple theory is valuable at a high level of abstraction, it is harder to apply at the concrete level of specific goods and services. While food is obviously a necessity, one could argue that filet mignon or caviar is a luxury. Clothes are generally regarded as a necessity; however, a custom-made designer suit would likely be considered a discretionary item.

In any economy, goods and services that fall into the physiological and safety needs categories (e.g. food, housing, medicine) are easily identified. In a developing economy however, goods and services in Maslow's (1943) categories of belonging, esteem and self-actualization are less evident. In a developed economy, a smart phone may be viewed as "necessary" in order to connect with others and achieve a feeling of self-worth. This would hardly be considered a necessity in an economy where basic needs such as food and shelter were scarce.

2.1.2. Economic Perspective on Necessity

Economists measure the necessity of consumer goods by the *price* elasticity of demand, which is the degree to which demand of a good is affected by a change in price. Inelastic products are considered to be necessities because their demand responds less to changes in price than does demand for elastic products. The logic is that consumers will be willing to purchase a product they really need at any price (within the limits of their income).

Income elasticity of demand measures how consumer demand changes with income changes. The demand for necessary goods is likely less sensitive to income changes, so they are classified as income inelastic goods. Luxury goods are typically considered to have a high income elasticity of demand. A luxury good may be deemed necessary after income increases, or alternatively, a formerly necessary good may become a luxury if income falls sufficiently. For example, families might cut back on restaurant visits if an earning member loses his/her job.

2.1.3. Psychological Perspective on Necessity

The smart phone example is better described by the term "social necessity," where need is based on a socially defined standard of living (Dickes, Fusco and Marlier (2008) or "perceived necessity" (Sharma, Shimp and Shin, 1995) where something is considered personally necessary or necessary to function in the domestic economy.

Perceived necessity has been observed in various settings. The perceived necessity of a company merger has been shown to reduce uncertainty and increase post-merger employees' sense of company identification (Giessner, 2011). The perceived necessity of medication is correlated positively with patient medication adherence (Cassell, Gyawali, Kushnir, Gott, Nix, and Sayuk, 2015). I expect that perceived necessity has a strong impact on consumer beliefs about firms and their products.

Consumers often use the terms want and need interchangeably. Need best describes things that are essential, indispensable or required for survival and includes basic needs such as consumption goods required for long term physical well-being. Want on the other hand involves desire and therefore suggests a value judgment such as when people say things such as "I need to try that new restaurant that just opened". The term perceived necessity shares elements of basic needs and discretionary products (wants).

Human wants and needs involve tangible and intangible things. Food and clothing are examples of tangibles. Intangibles include love, security, confidence and acceptance. In some cases, tangible products are required to fulfill intangible needs, such as when a fence provides security for a home or a college degree is needed to achieve a feeling of personal confidence and acceptance by peers. Tangible products often embed valuable intangible elements (Basu and Waymire, 2008) and there is often far more to them than what we are able to see and touch.

Under the umbrella of perceived necessity, classifications of consumer products by Maslow's hierarchy of needs are not absolute but a function of the environment in which they are sold. As economies develop and discretionary income rises, basic goods (needs) are no longer the only necessities. Products that help to fill psychological and self-fulfillment needs become perceived as necessary along with food, shelter and security. When discretionary income drops however, items previously perceived as necessities may suddenly be considered luxuries as demonstrated above by the change in attitudes towards microwave ovens after the start of the Great Recession. In this sense, perceived necessity combines elements of necessity from Maslow's perspective and the economic perspective.

2.1.4. Necessity and Consumer Decision Making

Necessity has taken on significant meaning in the world of marketing in recent decades. The concept of motivation in marketing theory originally focused on interpretive or psychoanalytic studies, followed by psychophysiology, and more recently the current emphasis on categorizing buyer needs to segment consumers. Human motivation has been described as an outcome of unmet needs, thereby prompting people to innovate or purchase goods and services (Pincus, 2004).

Predicting whether consumers will mentally define products as wants or needs and what purchase decisions they will make is a complex question, particularly in the context of perceived necessity. The evolving economic and developmental status of society, ever changing consumer expectations and human psychological factors constantly come into play. Perceived necessity has even been observed to influence conditional reasoning whereby people may draw different conclusions from equivalent statements (Thompson and Mann, 1995).

Both hedonic and utilitarian elements affect consumer purchase decisions. Consumers consider goods that bring pleasure to be more luxurious than those that relieve discomfort. An automobile may be considered necessary, however the choice between a practical minivan and an exciting sports car reflects another level of decision. Necessary products often offer features that are necessary or discretionary. The minivan may be the more practical (necessary) choice; however, the option to purchase heated seats or a premium audio system would arguably be a luxury (discretionary).

Consumers tend to choose what they need when acquiring a product but are less likely to give up hedonic products (or features) than necessities when they give up something (Dhar and Wertenbroch, 2000). This suggests that while consumers will often choose what they need, they want and are likely to keep things they like and perceive them as necessities over time (all other things being equal such as income, economic health, etc.). To expand on the minivan example above, once a consumer makes the discretionary and luxurious choice of heated seats, the consumer is likely to incorporate it into her life and to purchase it again, enabling the provider of that good or service to charge a price premium (Dhar and Wertenbroch, 2000). Research into money and necessity supports this conclusion. As individuals progress through the stages of Maslow's hierarchy of needs, from physiological to self-actualization, money becomes less important (Oleson, 2004), allowing them to make more hedonic choices.

Necessary products are more likely to be commodity goods with increased competition, and therefore compete on price. Regardless of income level, I expect consumers to be more critical of the pricing of firms producing necessary goods than of firms offering discretionary goods because consumers feel they must purchase them.

2.2. Reputation

Countless books and articles describe how companies with good reputations are more attractive to customers, lenders, talented employees, and shareholders and sustain superior profitability (Roberts and Dowling, 2002). Tischer and Hildebrandt (2014) point out, “the assumption arises that a consistent and strong relationship between company reputation and financial performance exists.”

Good reputations provide strategic advantages to firms by reducing competitive rivalry and enabling them to charge premium prices for their goods and services (Flatt and Kowalczyk, 2011; Dowling, 2006). Reputation can thus be a company’s most valuable attribute (Vallens 2008). The resource-based view of competitive advantage suggests that firm reputation is a unique, un-substitutable, valuable and limited resource that helps maintain a competitive advantage over rivals (Porter, 1990).

As developed countries have transitioned from manufacturing- to service-based economies, intellectual property has become more significant and the proportion of intangible to tangible value of a company has increased. Over the past several decades the percentage of a firm’s value that is attributed to intangible assets has risen to over 75% (Kessel, 2014; Cowen, 2015; Juetten, 2014). Some authors suggest that the intangible, hard-to measure asset of reputation comprises a significant portion of that intangible value (Vallens, 2008).[5]

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[5] Basu and Waymire (2008) argue that this inference is an artifact of stock market bubbles in the 1990s and 2000s. Fama and French (2004) show that the introduction of NASDAQ and the competitive lowering in NYSE listing standards make stock-market-wide comparisons over time misleading.

2.2.1. Reputation Definitions

Reputation is a perspective created by others and is "formed over time based on what the organization has done and how it has behaved" (Balmer and Greyser, 2003). The Oxford English Dictionary defines reputation as "The beliefs or opinions that are generally held about someone or something" or "A widespread belief that someone or something has a particular habit or characteristic." Firm reputation results from a stakeholder's evaluation of a firm's characteristics and actions and is used to forecast the future behavior of the firm. Because a firm's reputation is attributed to it by others, firm reputation is not easily changed or managed by the firm but firms still try to influence the outcome. I describe firm reputation as an overall perception of the firm that is formed over time based on the qualities and actions of the firm.

Image, goodwill, brand and reputation are often confused. "Image is an immediate mental picture that individuals conceive" (Helm, 2011). As a result, an image can be quickly changed or influenced. Goodwill is an accounting measure of the reputation of a purchased firm, estimated as the price paid for a firm in excess of the fair market value of its net identifiable assets (SFAS 142, FASB 2001; ASC 350, FASB 2012).[6] The American Marketing Association defines a brand as "A name, term, design, symbol, or any other feature that identifies one seller's good or service as distinct from those of other sellers."[7] The legal term for a registered brand is trademark. Brand perception can be changed or influenced (Helm, 2011), but unless the company is the brand, brand reputation is not the same as company reputation.

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[6] http://www.fasb.org/st/summary/stsum142.shtml, http://www.iasplus.com/en-us/standards/fasb/assets/asc350

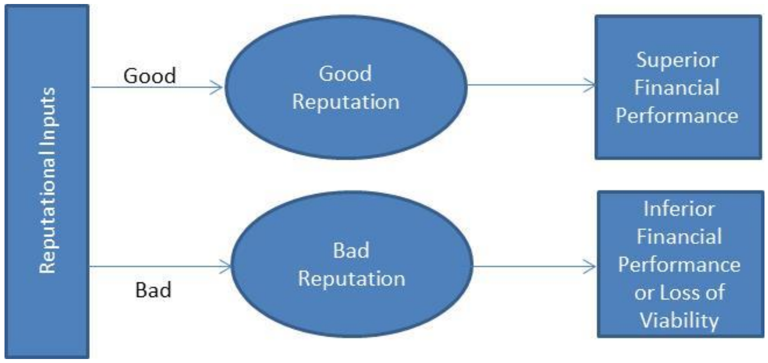
[7] http://www.marketing-dictionary.org/ama

2.2.2. Antecedents and Outcomes of Firm Reputation

The different definitions of reputation share common themes. Many delve into the specific attributes, antecedents and dimensions that comprise or influence firm reputation. These elements are then correlated to a rating of firm reputation measured via surveys or less subjective measures such as shareholder value or product price premium to demonstrate the importance of a good firm reputation to profitability. Some research suggests that firm reputation (and the resulting trust) is the only differentiating factor in the services industry, especially in the virtual world of the Internet where there are no physical "stores" or "offices" to visit during a customer transaction (Weston and Naughton, 2005; Caruana and Ewing, 2010). Consumer uncertainty about the quality of credence services has been described as "intense" with high inequality of information between the consumer and provider, particularly in high-knowledge industries such as health care (Arrow, 1963). Reputation represents a differentiator in these situations.

Enron and WorldCom are often cited as companies whose bad reputations ultimately cost them their financial lives, at least as independent organizations (Linthicum, Reitenga, and Sanchez, 2010). The naïve generalization is that all bad firm reputations are bad for business similar to the findings that a good firm reputation is good for business. However, these two cases were the result of an individual scandal or disaster. These relationships are depicted below in Figure 1:

Figure 1: Naïve Firm Reputation Model



Many antecedents influence firm reputation. Fombrun (1996) discusses the importance of distinctiveness, focus, consistency and transparency in companies with good reputations. Other authors cite the significance of customer experiences (Satir, 2006), communications and actions (Doorley and Garcia, 2006) as well as performance, trust and societal value (Beheshtifar and Korouki, 2013). Crises such as disasters, scandals and mass product recall, the associated media coverage and company response can have short- or long-lasting effects on a company's reputation (Cleeren, Dekimpe and Helsen, 2008; Cleeren, van Heerde and Dekimpe, 2013; Coombs, 2007; Yoon, Giirhan-Canli and Schwarz, 2006). Four categories capture most of the antecedents that impact reputation: customer experiences, events (breakthrough products, crises), media coverage and company actions. In the research on firm reputation and its antecedents and consequences, the following scenarios have been identified in Table 1:

Table 1: Reputational Antecedents and Outcomes

Scenario	Antecedent	Reputation	Outcome	Notes from Existing Research
GGG	**G**	**G**	**G**	Heavily studied and supported
GGB	**G**	**G**	**B**	Social responsibility efforts not always impactful
GBG	**G**	**B**	**G**	Unlikely, not observed
GBB	**G**	**B**	**B**	Unlikely, not observed
BGG	**B**	**G**	**G**	Bad news drives awareness
BGB	**B**	**G**	**B**	Unlikely, not observed
BBG*	**B**	**B**	**G**	Bad boy effect, sin stocks
BBB*	**B**	**B**	**B**	Existing research limited to crises

G = Good or favorable   B = Bad or unfavorable   *Focus of Research

It is generally accepted in the first scenario (GGG) that good inputs lead to a good reputation and good outcomes. This is demonstrated in favorable customer behavioral (purchase) intentions (Keh and Xie, 2009), willingness to pay a premium (Resnick et al., 2006) and greater value creation for the organization (Dowling, 2006). While this is the most widely studied and common scenario, it is not without exception. Doing good doesn't always lead to doing better as described by scenario GGB where favorable inputs lead to a good reputation but bad outcomes. Corporate social responsibility (CSR) programs aimed to give back to society and are generally well received. However, Sen and Bhattacharya (2001) found that under conditions such as absence of customer-company congruence or strong correlation between the firm and the cause, CSR programs could decrease a consumer's intention to buy, resulting in bad outcomes. The final good antecedent scenarios are followed by a bad reputation (GBG and GBB) with good or bad outcomes. I am unaware of any observed scenarios where good antecedents drive a bad reputation.[8]

Decreased intention to buy described by Sen and Bhattacharya is not the only observed dissymmetry. Under certain conditions, bad inputs may lead to a good reputation and good outcomes (BGG). Bad publicity can generate awareness and accessibility and therefore good outcomes (Berger, Sorensen and Rasmussen, 2010). Hence, the common phrase, “there’s no such thing as bad publicity,” often associated with Phineas T. Barnum, the 19th century American showman and circus owner. While it is difficult to conclude that the resulting reputation is always good in this scenario, it is at least moderate. Another scenario of bad inputs followed by good outcomes (BBG) is seen in the counter-culture phenomenon (Lucas, Hough and Fisher, 2011), sometimes described as the “bad boy” effect personified by the actor James Dean and rapper 50 Cent. The positive, risk-adjusted returns of “sin stocks” (e.g. gambling, tobacco) also support this scenario where Fabozzi, Ma and Oliphant (2008) conclude that undervaluation and not having to spend money on a good reputation are drivers of positive stock performance. The scenario where bad inputs result in a good reputation and bad outcomes is an unlikely and unobserved phenomenon (BGB). The last scenario (BBB) where bad inputs lead to a bad reputation and bad results has been studied, although the research has largely been limited to the antecedents of crises.

2.3. Reputation and Consumer Response

Consumer reputation will not affect a firm financially unless it affects consumer purchase decisions, so it is important to understand the consumer purchase decision-

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[8] Jay Sinha (2015) describes a phenomenon in brand management using social media where seemingly good inputs may result in unwanted connotations or attention (similar to scenario GBB). Brand reputation however should not be confused with firm reputation unless the brand *is* the firm (Should this sentence end “the firm *is* the brand”?).

making process. Watson and Spence (2007) describe consumption situations as "emotionally charged" and a consumer's view on reputation is often very emotional, ranging from general affinity to adoration and mild discontent to moral outrage. Emotions typically aren't singular or simple in their influence. Emotion-based decisions can be reflective, such as those centered around nostalgia, or anticipatory, where there is a future expectation of excitement or return. Mixed emotions can create a complex setting of consumer approach-avoidance (Penz and Hogg, 2011) while Babin, Darden and Babin (1998) report that emotional responses are not necessarily bi-polar.

Violations of moral emotions represent perhaps the greatest emotional influencers in the purchase decision process. Moral emotions elicit visions of victims, villains, heroes and beneficiaries, fueling strong personal responses (Gray and Wegner, 2011). Morals embody some of the strongest beliefs held by individuals. When consumers' moral beliefs are compromised through social, environmental or legal transgressions, as is often the case in company crisis situations, consumers often feel compelled to respond (Grappi, Romani and Bagozzi, 2013). Moral outrage may not result in action however as Grappi, Romani and Bagozzi (2013) point out that "misconduct by corporations arouses one's sensitivity and valuation of the harm done, but something more is needed to orient and direct the felt outrage in a productive way."

Mudambi (2002) studied organizational buyers and argues that purchase needs, purchase characteristics, seller reputation and buyer characteristics impact purchase decisions in diminishing order. Nelson (2004) uses image theory to highlight that the value-laden purchase-decision process is based on more than a single "obvious" variable. Customer purchase intentions are also affected by company-customer relationships.

Consumer trust, identification and commitment impact purchase decisions (Keh and Xie, 2009). Perceived value can offset reputation (Caruana and Ewing, 2010) and consumers respond differently to companies in different industries (Yoon, Giirhan-Canli and Schwarz, 2006).

Price increases can affect the way consumers view firms and their decision to repurchase a good or service. Consumers are generally understanding of price increases that they consider fair or whose reasons they understand. Modest price increases or increases that are required to cover increasing market costs familiar to the consumer are often absorbed with little fanfare or impact on repurchase decisions. A firm that excessively raises prices, particularly during difficult economic times or a crisis (e.g., tripling gas prices after a hurricane), is likely to find itself facing angry consumers, consumer activism or worse, government intervention (Ferguson, 2014).

A consumer’s perception of fairness in pricing is a function of a variety of factors that includes price comparison to competitors or substitutable products, need and firm behavior. Firms that price their products fairly and practice transparency will generally benefit from good reputations and maintain happy customers. When firms do not, consumers respond in a variety of ways. Consumers may simply think less of the firm, diminishing the firm’s reputation. In other cases, they may take action such as sharing negative opinions, protesting, stop repurchasing the product or switching to a competitor.

In some cases, the customer cannot always go elsewhere to find relief, for example when products are priced comparably (such as gasoline) or alternatives aren’t clear (such as with prescription medication). An outcome is that some price increases are considered to be more reasonable than others, resulting in varying levels of intensity of consumer response. Consumers respond more strongly to price increases of essential products (Pawsan, Crawford, Ngamsiriudom and Nguyen, 2014), arguably because they cannot do without them.

Firms can protect themselves to some degree. Building strong reputations, demonstrating ethical behavior and focusing on customer satisfaction have been shown to protect a firm from negative consumer reactions. In some cases, these actions can even command a price premium.

Consumer purchase intent is affected by variables such as need, customer-company identification and perceived value. Consumers also tend to give companies "the benefit of the doubt," for example when a firm is aware of bad news yet chooses not to disclose it (Levis, 2015). The resulting consumer purchase decision is a complex process that is impacted by multiple inputs; reducing the likelihood that one variable alone will determine the outcome (see Table 2 below). Depending upon the inputs, customers may not avoid a company with a bad reputation, raising questions about the assumption that a bad reputation will always reduce customer purchases, and therefore, reduce profitability.

Table 2: Elements that Impact Customer Purchase Intentions

	Trust	Customer-Company Identification	Reputation	Need	Buyer/Purchase Characteristics	Commitment	Perceived Value
Elements that impact customer purchase intentions	Confidence in the reliability of the exchange	Self identification	General Reputation	Necessary	Price	Willingness to maintain an enduring relationship	Low Price
	Perception of companies ability, benevolence, willingness & integrity	Company identification	How well known	Discretionary	Quality of the relationship		Desired product attributes
		Company ability to fulfill self identification needs			Purchase/Delivery Characteristics		Quality for price paid

CHAPTER 3

CONCEPTUAL MODELS AND HYPOTHESES

3.1. Reputation

I suggested earlier that a bad reputation isn't necessarily bad for business. Regulated industries include oligopolistic segments such as energy where consumers have limited choices amongst firms that often operate using similar business models, leaving little ability for the consumer to differentiate. Other firms such as those in the pharmaceutical industry offer monopolistic products, sometimes at very high prices to customers who have no other choice. Such consumers are critical of those companies for being opportunistic, contributing to their bad reputations.

The above findings suggest that a firm that offers necessary goods and services is less likely to be adversely impacted than a firm that offers discretionary ones because in many cases the customers cannot avoid purchasing the product or service. I therefore hypothesize:

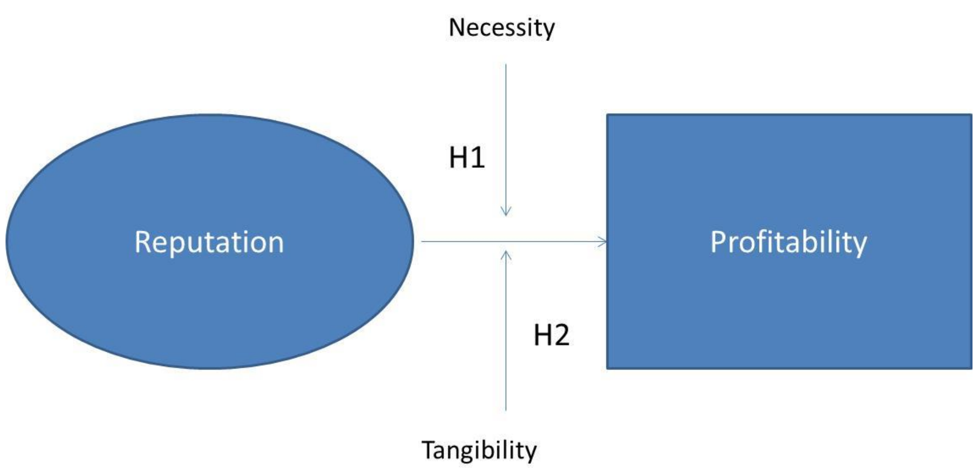
Hypothesis 1 (H1): Product necessity of a firm reduces the impact of reputation on profitability.

Other research highlights the impact that reputation has on service firms. Wilfred Dolfsma (2011) speaks to the findings that "image and identity" are "critical for any new service offering" and that "buyers frequently rely on company reputation when evaluating a new service." I argue that bad corporate reputation is less likely to hurt sales of tangible goods than intangible services, because assessing quality for the latter is inherently difficult and customers often rely on seller reputation to choose providers (Arrow, 1963), resulting in the following hypothesis:

Hypothesis 2 (H2): Product tangibility of a firm reduces the impact of reputation on profitability.

The model of the first two hypotheses is depicted below in figure 2:

Figure 2: Model of the Impact of Reputation on Firm Profitability



While not the subject of this study, crises (scandals or disasters) often impact reputations and may be the cause of highly reduced profits in these unique circumstances (Backhaus and Fischer, 2016). I include crises that firms recently experienced in my analysis as a control variable.

3.2. Consumer Opinion and Decision-Making

Consumers' positions on the necessity of goods and services influence how they view products, and possibly the firms that offer them (Norris and Williams, 2016), respond to price increases (Pawsan, Crawford, Ngamsiriudom and Nguyen, 2014) and decide to repurchase (Dhar and Wertenbroch, 2000). All of these variables could ultimately affect firm profitability because consumer behavior drives revenue.

I posit that consumers like products they want more than the ones they need, and in turn, differentiate between the firms that offer them. These firms and their products are therefore more desirable to consumers resulting in higher sales and profits. This argument is expressed in the following hypotheses:

Hypothesis 3 (H3): The necessity of a firm's products reduces firm profitability.

Hypothesis 4 (H4): The necessity of a firm's products reduces consumer opinion of firms.

Dunbar and Schwalbach (2000) question the strength of the correlation between firm reputation and profitability although Tischer and Hildebrandt (2014) demonstrated that the publication of reputational rankings has an impact on shareholder value. Others describe the attempt at financial measurement as "more art than science" (Dowling, 2006). I believe that a well-structured, quantitative approach can determine the sign and magnitude of the relationship between firm reputation and subsequent profitability.

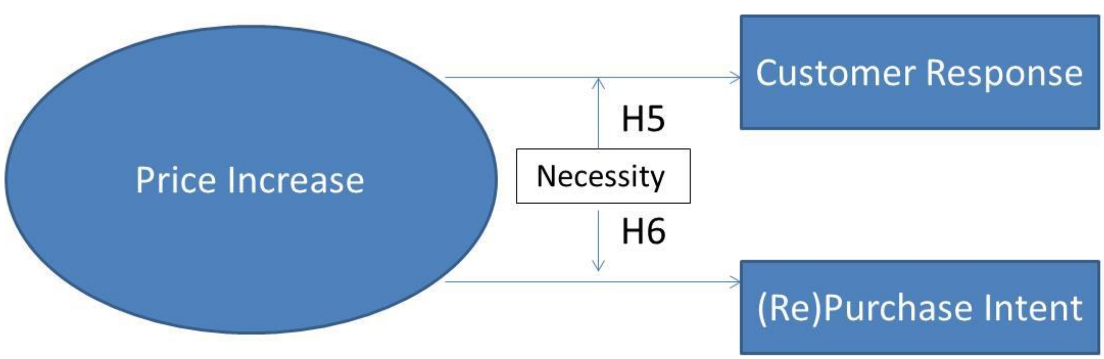
Consumers have varying reactions to price increases by firms. Reactions are impacted by the size of the increase, behavior of competitors, social and economic circumstances, firm transparency and ethics (Ferguson, 2014). Regardless of these variables, one underlying constant is the necessity of that product to the consumer. When a consumer must purchase the product because it is essential to survival or integration into society, they are more likely to respond negatively to the price increase because they have no choice but to purchase it and may feel trapped or taken advantage of.

Normally, one would expect a strong, negative consumer reaction to a price increase to result in a reduced likelihood of repurchase. I propose that a consumer is more likely to repurchase a necessary product than a discretionary product after a price increase because the consumer cannot physically or psychologically do without the necessary product. This relation is also predicted if necessity is defined by price elasticity of demand. These predictions are described in Hypotheses 5 and 6 and the model in Figure 3.

Hypothesis 5 (H5): Product necessity reduces consumer opinions of products after large price increases.

Hypothesis 6 (H6): Product necessity increases the likelihood of repurchase after a large price increase.

Figure 3: The Moderating Impact of Necessity on Price Increases



CHAPTER 4

DATA AND ANALYSIS

4.1. Firm/Product Categorization and Data Collection

The Harris Reputation Survey (now part of Nielsen) was used to identify firms with reputation ratings that could be used for hypotheses testing. While some surveys are directed at managerial audiences or financial analysts, the Harris Poll surveys the general public to construct a consumer reputation measure that is the independent variablefor a few of my hypotheses. Using the Harris Reputation Quotient® rankings could be circular due to their inclusion of a profitability measure in calculating the ratings. Financial performance however represents only one of six dimensions in the Harris ranking. Twenty (20) firm-year attributes are collected, only one of which is associated with profitability (see Attachment A).

The Harris Reputation Survey has been delivered from 1999-2017. Survey data is collected in the year before and is published in the first months of the titled year. Sixty (60) firms were listed in the survey report through 2014. Beginning in 2015, 100 firms are included in the survey report.

Firms in the Harris surveys from 2006, 2008, 2009, 2010, 2012, 2013 and 2014 were selected for this study. The sample years were limited to the previous decade to facilitate data collection and integrity. Seven years were compiled to increase statistical power for the analyses. I restricted my sample to publicly traded survey firms to get easy access to company financials, and firms that offer goods and services to the public (the survey respondents). The reputation measure (reputation quotient or RQ) was taken directly from the Harris survey.

Ninety (90) unique firms and four hundred and eight (408) firm years were covered in the seven surveys. Fourteen (14) firms representing thirty-five (35) firm years were excluded from the analyses along with four (4) firm-years from firms included in other years. As shown in Table 3, many firms appeared in multiple years resulting in a total of 76 unique firms and 369 firm-years in the data set.

Eight (8) firms were excluded because they were not public in any of the survey years (Burger King, Chick-Fil-A, Chrysler, Citgo, Dell, SC Johnson, State Farm and USAA). Two (2) firms were excluded because they are foreign companies that do not publish (U.S. GAAS) audited U.S. financial data (Hyundai and Samsung). Wachovia and Merrill Lynch were excluded because they were acquired in the survey year and full year financials were not available. Washington Mutual went out of business in the survey year and Berkshire Hathaway (a holding company) was excluded because products offered to the public represent a very small fraction of revenue. Kraft was excluded in 2013 due to a restructuring and three (3) years of Royal Dutch Shell financials were not available from Compustat.

Table 3: Firms in Survey by Year

Firm	Year in Survey	Firm	Year in Survey	Firm	Year in Survey
3M	'06, '08, '09, '10	FedEx	'06, '09, '10	Nike	'06, '08, '09, '10, '12, '13, '14
AIG	'08, '09, '10, '12, '13, '14	Ford	'06, '08, '09, '10, '12, '13, '14	Nordstrom	'06, '14
Allstate	'06, '08, '09, '10, '14	Freddie Mac	'09	Procter & Gamble	'06, '08, '09, '10, '12, '13, '14
Altria	'06	General Electric	'06, '08, '09, '10, '12, '13, '14	Pepsico	'06, '08, '09, '10, '12, '13, '14
Amazon	'06, '08, '09, '10, '12, '13, '14	General Mills	'06, '08, '09, '10, '12	Pfizer	'09, '10
American Airlines	'13	General Motors	'06, '08, '09, '10, '12, '13, '14	(Royal Dutch) Shell	'06, '08*, '09, '10, '13*, '14*
American Express	'06, '08, '09, '10	Goldman Sachs	'09, '10, '12, '13, '14	Samsung*	'12, '13, '14
Apple	'06, '08, '09, '10, '12, '13, '14	Google	'06, '08, '09, '10, '12, '13, '14	Sears	'06, '08, '12, '13, '14
AT&T	'06, '08, '09, '10, '12, '13, '14	Halliburton	'06, '08, '13, '14	SC Johnson*	'09
Bank of America	'06, '08, '09, '10, '12, '13, '14	Home Depot	'06, '08, '09, '10, '12, '13, '14	Sony	'06, '08, '09, '10, '12, '13, '14
Berkshire Hathaway*	'08, '09, '12, '13	Honda	'06, '08, '09, '10, '12, '13, '14	Southwest Airline	'06, '08, '09, '10, '12, '14
Best Buy	'06, '08, '09, '10, '12, '13, '14	Hewlett Packard	'06, '08, '09, '10, '12, '13, '14	Sprint	06, '08, '09, '10, '12, '13, '14
Boeing	'06, '08, '12	Hyundai*	'12, '13, '14	Starbucks	'06, '09, '10, '12, '13, '14
British Petroleum	'06, '08, '12, '13, '14	IBM	'06, '08, '09, '10, '12, '13, '14	State Farm*	'08, '09
Burger King*	'13	Intel	'06, '09, '10	T-Mobile	'13, '14
Chevron	'06, '08, '12	ING	'09, '10	Target	'06, '08, '09, '10, '12, '13, '14
Chick-Fil-A*	'13, '14	JC Penney	'06, '08, '12, '13, '14	Time Warner	'06, '08, '09, '10, '12, '13, '14
Chrysler*	'08, '09, '12, '13, '14	Johnson & Johnson	'06, '08, '09, '10, '12, '13, '14	Toyota	'06, '08, '09, '10, '12, '13, '14
Citgo*	'08	JP Morgan Chase	'08, '09, '10, '12, '13, '14	Unilever	'06, '08
Citigroup	'06, '08, '09, '10, '12, '13, '14	Kohls	'12, '13, '14	UPS	'06, '09, '10, '12
Coca Cola	'06, '08, '09, '12, '13, '14	Kraft	'08, '09, '10, '12, '13*, '14	USAA*	'12, '13, '14
Comcast	'06, '08, '09, '10, '12, '13, '14	Lowe's	'06, '08, '09, '10, '12, '13, '14	Verizon	'06, '08, '09, '10, '12, '13, '14
Costco	'06, '08, '09, '10, '12, '13, '14	Macy's	'12, '13, '14	Wachovia*	'08
Dell*	'08, '09, '12	McDonald's	'06, '08, '09, '10, '12, '13, '14	Walgreens	'12
Delta Airlines	'09, '10	Merck	'06	Wal Mart	'06, '08, '09, '10, '12, '13, '14
Dish Network	'14	Merrill Lynch*	'08	Walt Disney	'06, '08, '09, '10, '12, '13, '14
EMC	'08	Microsoft	'06, '08, '09, '10, '12, '13, '14	Washington Mutual*	'06, '08, '10, '13, '14
Exxon Mobil	'06, '08, '09, '10, '12, '13, '14	Monsanto	'09, '10, '13, '14	Wells Fargo	'06, '08, '09, '10, '12, '13, '14
Facebook	'13, '14	Netflix	'12	Whole Foods	'06, '08, '09, '10, '12, '13, '14
Fannie Mae	'09	News Corp	'12	YUM Brands	'13

* Excluded from Analysis

Financial data from the publication year of the report were analyzed so that there was an (approximate) one-year lag between the survey measure and profitability (the dependent variable). Firm's Total Return on Assets (ROA) data were obtained from Compustat. ROA was chosen as the primary financial measure because while no financial metric is perfect, return on assets represents the best, single, overall measure of firm performance (Hagel, Seely and Davison, 2010).

Firm profitability is impacted by many variables beyond reputation, creating a danger of confounding. The following control variables were included to improve causal identification: crisis (CR), industry (IN) and year (YR) effects. Reputation was measured in seven (7) separate years, which were controlled for as variable YR. Industry categories that were provided in the Harris Survey were used to categorize the associated firm industries (IN).

An Internet search was performed on each firm in the three (3) years leading up to the reputation survey year to determine whether a crisis was experienced that could impact firm reputation and profitability. A crisis was defined as:

- A well-defined, generally accepted public crisis (e.g. the financial and automotive crises of 2008).
- Scandal (e.g. fraud, criminal activity).
- Natural (e.g. fire, hurricane) and business (e.g. oil spills, industrial accidents, consumer deaths) disasters.
- Significant or negative event well publicized by the media (e.g. bankruptcy, massive recall, data/privacy theft).
- Legal proceedings with material impact on the firm (e.g. class action lawsuits, significant labor violations).

4.1.1. Necessity Survey

When describing necessity, a consumer may not differentiate between basic needs and perceived necessities but their actions might still differ. It is important to distinguish these two categories because they may have a different moderating effect on reputation and firm profitability. I partition products into basic needs, perceived necessities and discretionary products, in order of decreasing need to the consumer.

A survey was delivered to 105 US recipients through Survey Monkey to determine consumer perceptions of the necessity of the goods and services. The recipients were asked to categorize 34 goods and services offered by firms in the Harris survey as either necessary or discretionary. Age, gender, household income and geography were well distributed amongst the respondents.

Firms were then sub-categorized as offering basic needs, perceived necessities and discretionary products. Products that address basic needs include health and hygiene (pharmaceuticals, soap, toothpaste), warmth (energy) and safety and security (banking for financial security, automotive for transportation). These products and the associated firms correlate to the basic needs in Maslow's hierarchy of needs and the products that at least 80.1% of the respondents considered to be necessary. Perceived necessities were classified as products that 40.1-80.0% (top half of the remaining necessity scale) of the respondents considered to be necessary. This includes many items that have become important for socialization or to function in the modern economy (cell phones, internet, airline travel, computers) and correlated to the social and self-actualization needs in Maslow's hierarchy of needs. Discretionary products were classified as those that 0-40.0% (remainder of the necessity scale) of the respondents considered necessary. This included entertainment (movies, cable TV), pre-packaged and fast food, and tobacco. (See Table 4).

Table 4: Firm Partitioning by Product Necessity and Tangibility

Good/Service Offered	Survey Results	Necessity	Tangibility	Firm(s)
Personal consumer products (shampoo, deodorant, toothpaste, etc.)	95.2%	Basic	Good	Proctor and Gamble, Unilever
Oil or gasoline (Energy)	93.3%	Basic	Good	BP, Chevron, Exxon-Mobil, GE, Halliburton, Royal Dutch Shell
Automobile insurance	90.5%	Basic	Service	Allstate
Prescription drugs	90.5%	Basic	Good	Johnson and Johnson, Merck, Prizer
Automobiles	89.5%	Basic	Good	Ford, GM, Honda, Toyota
Banking (savings/checking/loans)	88.6%	Basic	Service	Bank of America, Citigroup, ING, Wells Fargo, JP Morgan Chase, Fannie Mae, Freddie Mac
Home appliances	86.7%	Basic	Good	NA
Over the counter drugs	83.8%	Basic	Good	NA
Internet service	74.3%	Perc. Necc.	Service	NA
Home consumer goods (tape, glue, sponges, paint, etc.)	72.4%	Perc. Necc.	Good	3M
Cellular phone service	72.4%	Perc. Necc.	Service	AT&T, Sprint, T-Mobile, Verizon
Computers or tablets	71.4%	Perc. Necc.	Good	Hewlett Packard, Intel, EMC
Internet search engines	66.7%	Perc. Necc.	Service	Google
Life insurance	65.7%	Perc. Necc.	Service	AIG
Computer software	64.8%	Perc. Necc.	Good	Microsoft
A chain grocery store	50.5%	Perc. Necc.	Service	Whole Foods
Airline travel	50.5%	Perc. Necc.	Service	American Airlines, Boeing, Southwest, Delta
Investment or financial services	47.6%	Perc. Necc.	Service	Goldman Sachs
Warehouse or home improvement stores	47.6%	Perc. Necc.	Service	Home Depot, Lowes
Smart phones	46.7%	Perc. Necc.	Good	Apple
Internet content sites	46.7%	Perc. Necc.	Service	Facebook, IBM
A chain, brick and mortar discount or retail store	40.0%	Disc	Service	Best Buy, Costco, JC Penny, Kohls, Macy's, Nordstrom, Sears, Target, Wal-Mart, Walgreens
An online discount or retail store	39.0%	Disc	Service	Amazon
Exercise or sporting goods and apparel	32.4%	Disc	Good	Nike
Credit cards	31.4%	Disc	Service	American Express
Industrial chemicals	29.5%	Disc	Good	Monsanto
Cable or satellite TV service	26.7%	Disc	Service	Comcast, DISH, Time-Warner
Movies	24.8%	Disc	Service	Disney, Netflix, News Corp
Personal entertainment electronics (audio equipment, video games, etc.)	22.9%	Disc	Good	Sony
Express delivery Service	21.0%	Disc	Service	UPS, FedEx
Processed or pre-packaged food	18.1%	Disc	Good	General Mills, Kraft
Soft drinks or snacks	17.1%	Disc	Good	Coca Cola, Pepsico, YUM Brands
Fast food	15.2%	Disc	Good	McDonalds, Starbucks
Tobacco products	4.8%	Disc	Good	Altria

Basic Need	Perceived Necessity	Discretionary Product

4.1.2. Price Sensitivity Survey

Fifty-one (51) US recipients were surveyed through Survey Monkey to assess how consumers would react to a large price increase of necessary and discretionary products. The respondents were presented with six products (two basic needs, two perceived necessities and two discretionary products) and asked how they would feel if the price of that product increased immediately by 50%. The respondents were then asked how likely they would be to repurchase the product. A Likert scale (1-7) was used to measure the responses. Age, gender, household income and geography were well distributed amongst the respondents.

4.2. Analysis

The data were analyzed via Minitab software (V17) as described in Table 5.

- Firms were divided into numerous subsets:
  - Goods (34) and services (42).
  - Basic needs (24), perceived necessities (21), discretionary products (31).
- Reputational Quotient (RQ) from the Harris Survey was used to measure reputation and was available in every firm year.
- Return on Assets (ROA) was used to measure overall profitability. ROA was not available in 55 firm years.
- Linear regression and ANOVA was used for the analyses with a significance level of 0.05.

Table 5: Statistical Analysis Approach:

Hypothesis	Reputation influences financial performance	Statistical Approach
BASE Assumption	Test the relationship between profitability (ROA) of all firms and reputation (RQ) with expectation that a higher reputation equates to a higher ROA	Linear regression. ROA and RQ. All firms.
H1	**Necessity Moderates The impact of reputation on financials**	
	Compare the profitability of firms broken down by basic need, perceived necessity and discretionary.	Linear regressions of ROA and RQ. Necessity category.
H2	**Goods/Services moderate the impact of reputation on financials**	
	Compare the profitability of firms broken down by goods and services.	Linear regressions of ROA and RQ. Product type.
H3	**Necessity mediates firm financial performance**	
	Compare the profitability of firms by category (basic need, perceived necessity, discretionary) with expectation that discretionary firms perform better.	ANOVA of 3 categories. ROA.
H4	**Necessity mediates consumer opinion of firms**	
	Test the relationship between consumer opinion (RQ) and necessity.	ANOVA of 3 categories. RQ.
H5	**Consumers respond more negatively to price increases of needs than wants**	
	Compare consumer responses to large price increases of products in 3 categories	ANOVA of 3 categories. Likert score.
H6	**Necessity mediates the likelihood of repurchase after a price increase**	
	Compare consumer likelihood of repurchase of products after a large price increase in 3 categories	ANOVA of 3 categories. Likert score.

4.3. Discussion of Results

Return on assets (ROA) is Normally distributed with a *p*-value of 0.066 (see Figure 4). Reputation quotient data is not Normally distributed (see Figure 5). It is acceptable to use ANOVA since the sample size is large and the non-Normal distribution is the result of skewness and not outliers (see Figure 6). RQ and ROA are moderately correlated with a Pearson correlation of 0.386 and a *p*-value of 0.000.

Figure 4: Firm Return on Assets (ROA) Distribution

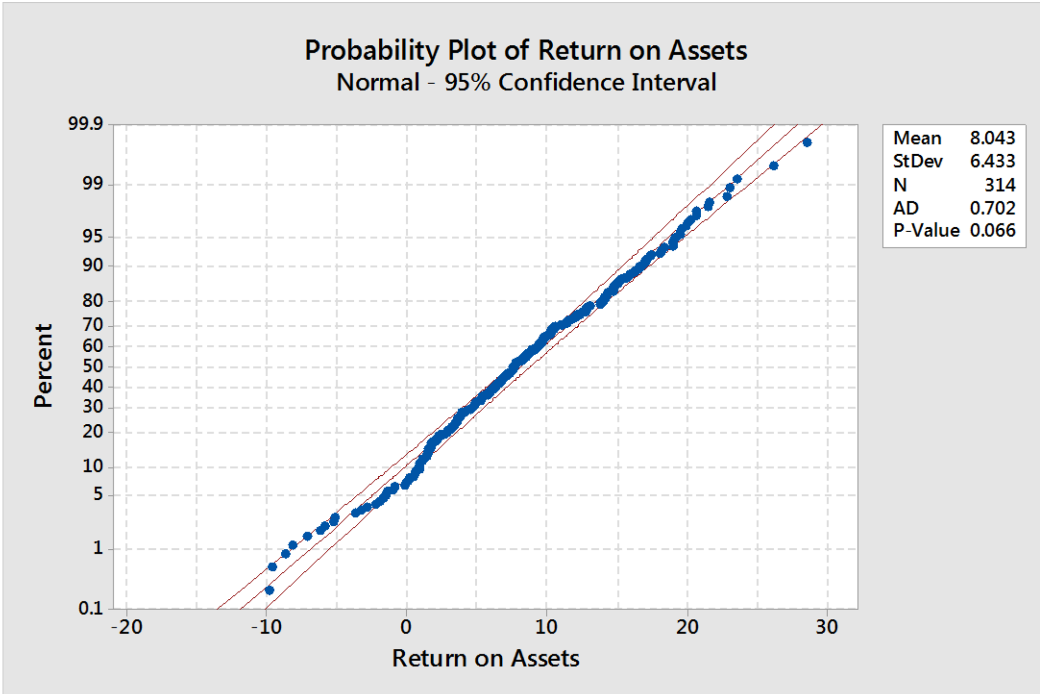


Figure 5: Harris Survey Reputation Quotient (RQ) Distribution

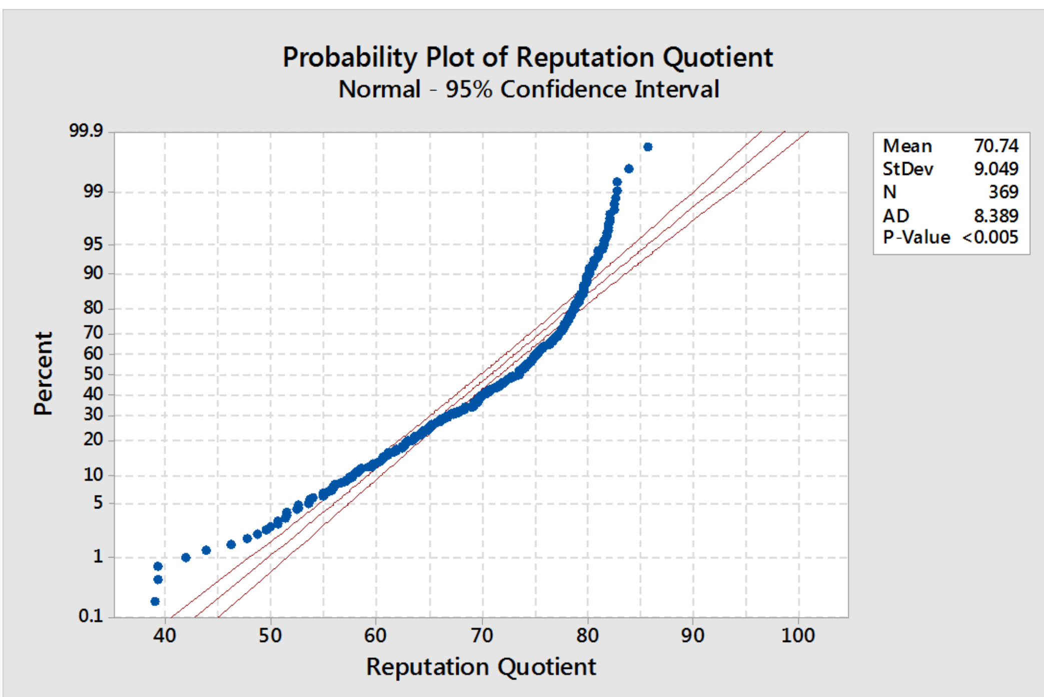
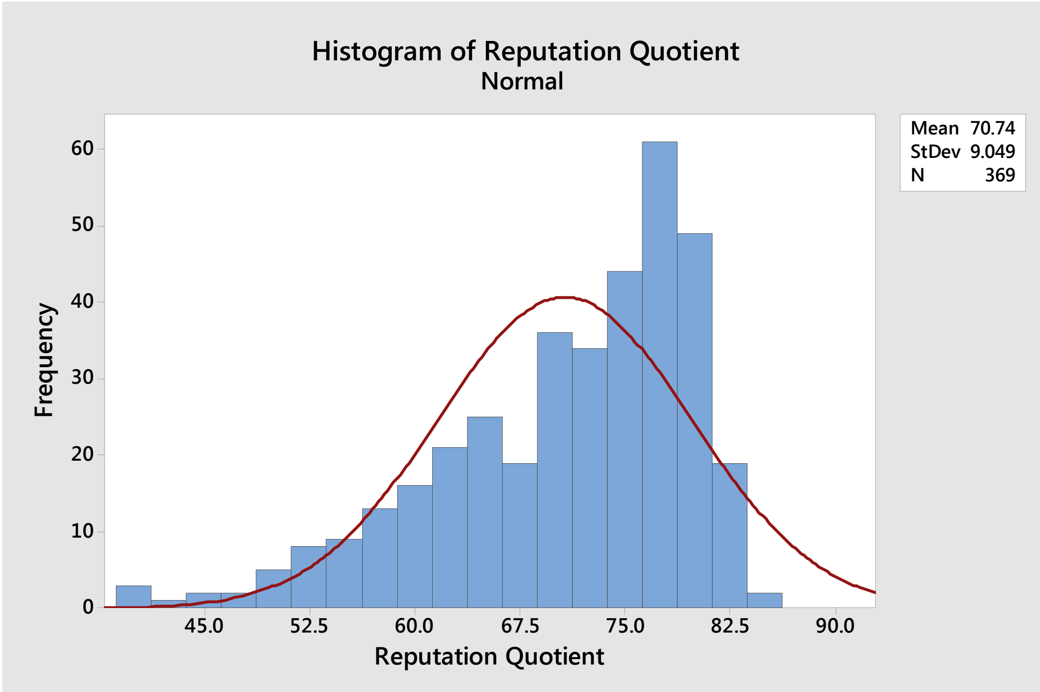


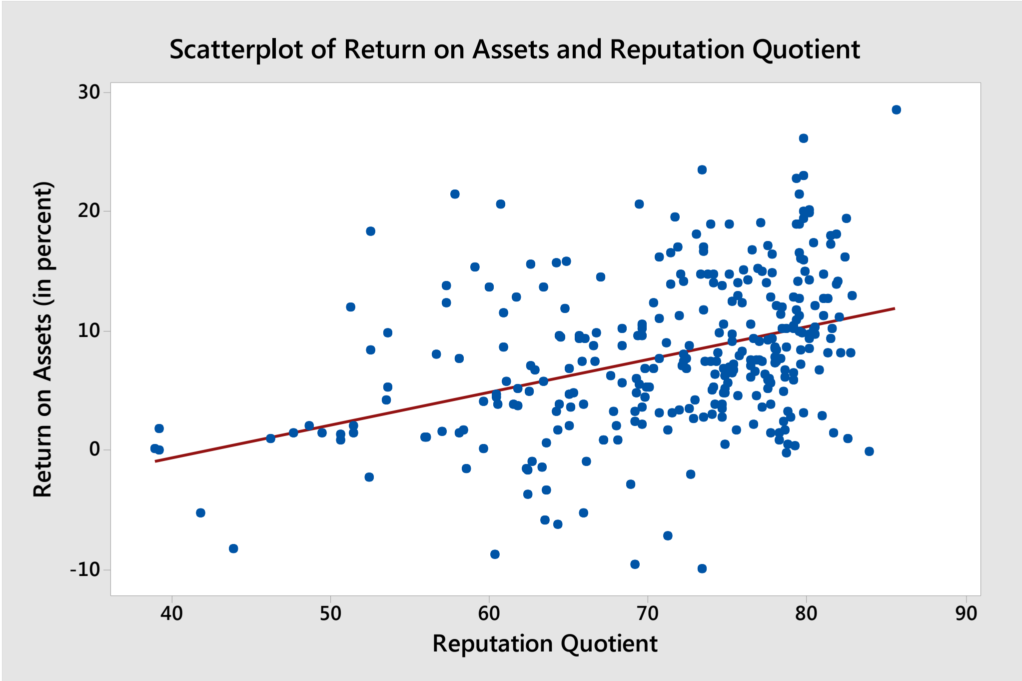
Figure 6: Harris Survey Reputation Quotient (RQ) Histogram



4.3.1. Baseline Assumption

The baseline assumption for hypotheses 1 and 2 is a positive relationship between reputation and firm profitability (Roberts and Dowling, 2002; Tischer and Hildebrandt, 2014). A good (bad) reputation generally leads to high (low) profitability as indicated by a positive slope of 0.275 and associated *p*-value of 0.000 in the linear regression. Homoscedasticity and linearity are observed graphically (see Figure 7).

Figure 7: Scatterplot of Return on Assets (ROA) and Reputation Quotient (RQ)



4.3.2. The Moderating Impact of Necessity on the Effect of Reputation on Firm Profitability

Hypothesis 1 is that the necessity of the goods and services offered by a firm will moderate the impact of reputation on firm profitability where basic needs are the least impacted by a bad reputation and discretionary products are the most impacted. The moderating impact of necessity was tested by regressing ROA on RQ separately for firms offering basic needs, perceived necessities and discretionary products. H1 is supported by evidence that the impact of a firm's reputation on its profitability is moderated by product necessity. For firms that offer basic needs, the relation between firm reputation and firm profitability is weak and statistically insignificant (see Table 6 Panels A and E and Figure 8) suggesting that a consumer will often purchase the product regardless of reputation.

However, firms that offer perceived necessities and discretionary products have strong positive relationships between reputation and profitability.

An unexpected finding is that the relationship for firms offering perceived necessities was twice as strong as that for firms offering discretionary products and statistically different from firms offering basic needs with a difference in intercepts and slopes of -26.71 and 0.40 respectively (Table 7 Panel A). I believed that discretionary goods would equate to luxury goods and would be more sensitive to reputation with perceived necessities falling in between basic needs and discretionary products. This result suggests that firms that offer perceived necessities should be the most conscious of the impact that reputation has on their profitability.

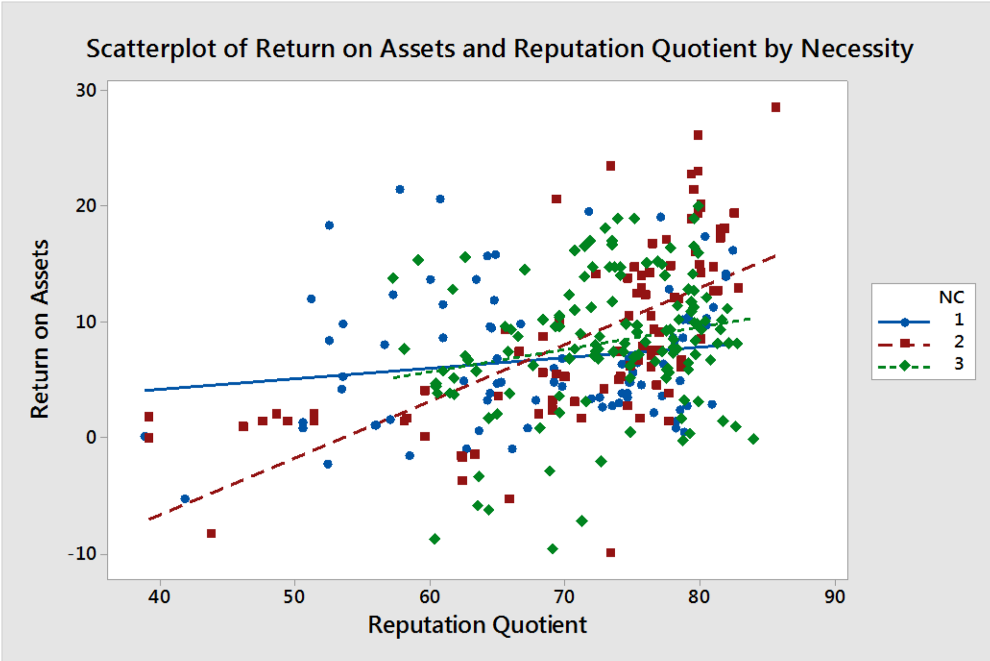
Table 6: Regressions of Reputation Quotient (RQ) on Return on Assets (ROA) by Product Necessity Category

Necessity	Slope	Intercept	*R*-squared (Adjusted)	N	*F*-Value	Regression *p*-value
All Firms	0.275	-11.6	14.4%	369	27.3	0.000
Basic Need	0.092	0.6	1.6%	118	2.4	0.124
Perceived Necessity	0.489	-26.1	41.5%	106	65.6	0.000
Discretionary	0.192	-5.8	3.9%	145	6.4	0.013

Table 7: Regression of Reputation Quotient and Return on Assets by Necessity with Pairwise *t*-Statistic

Term	Coef	SE Coef	*t*-statistic	*p*-value	VIF
Constant	0.58	4.18	0.14	0.891	
Reputation Quotient	0.09	0.06	1.52	0.129	2.82
Perceived	-26.71	5.93	-4.50	0.000	69.35
Discretionary	-6.35	7.02	-0.90	0.366	114.81
Reputation Quotient*Perceived	0.40	0.08	4.74	0.000	73.04
Reputation Quotient*Discretionary	0.10	0.10	1.03	0.305	120.58

Figure 8: Scatterplot of Return on Assets (ROA) and Reputation Quotient (RQ) by Necessity

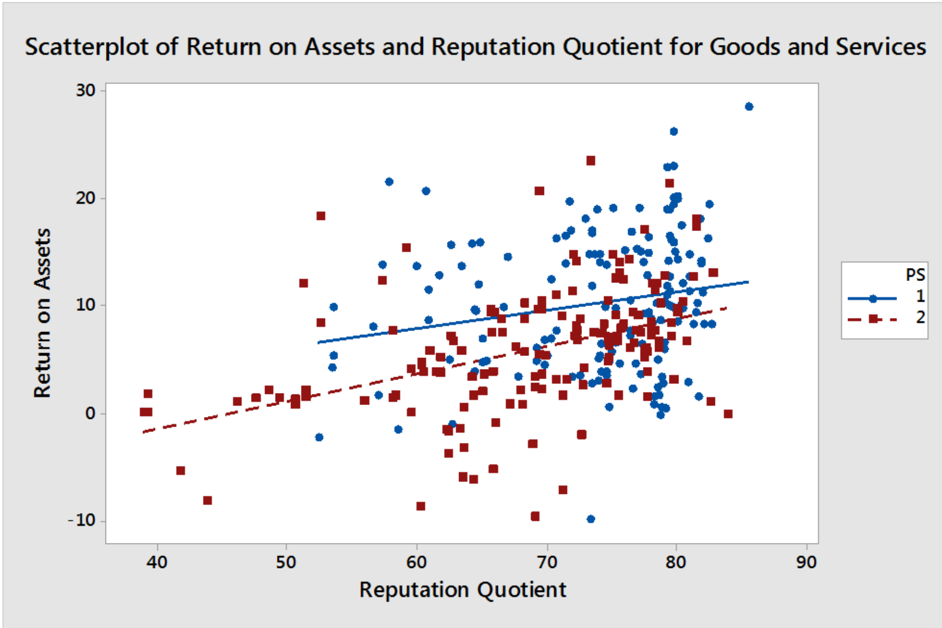


Necessity (NC) Key: 1=Basic Need, 2=Perceived Necessity, 3=Discretionary Product

4.3.3. The Moderating Impact of Product Tangibility on the Effect of Reputation on Firm Profitability

Hypothesis 2 predicts that firms that offer goods are less affected by a bad reputation than firms that provide services. The hypothesis was tested by regressing ROA on RQ separately for firms offering goods (34 firms, 167 firm-years) and services (42 firms, 202 firm years). The profitability of service firms is 50% more sensitive to reputation than goods (see Figure 9 and Table 8 Panel A). However, goods-producing firms have higher reputations on average than services firms (higher line). Statistical tests indicate that these intercepts and slope coefficients are not statistically different from each other with values of -9.32 and 0.09 respectively (Table 9 Panel A).

Figure 9: Scatterplot of Return on Assets (ROA) and Reputation Quotient (RQ) for Goods and Services:



Good/Service (PS) Key: 1 = Good, 2 = Service

Table 8: Reputation Quotient (RQ) and Return on Assets (ROA) of Goods and Services

Products	Slope	Intercept	*R*-squared (Adjusted)	N	*F*-Value	Regression *p*-value
All Firms	0.275	-11.6	14.4%	369	27.3	0.000
Goods	0.169	-2.2	3.1%	167	5.9	0.016
Services	0.254	-11.6	18.0%	202	36.1	0.000

Table 9: Regression of Reputation Quotient and Return on Assets of Goods and Services with Pairwise *t*-Statistic

Term	Coef	SE Coef	*t*-statistic	*p*-value	VIF
Constant	-2.23	4.75	-0.47	0.638	
Reputation Quotient	0.17	0.06	2.64	0.009	3.14
Service	-9.32	5.75	-1.62	0.106	78.31
Reputation Quotient*Service	0.09	0.08	1.08	0.281	72.96

4.3.4. The Effect of Product Necessity on Firm Profitability

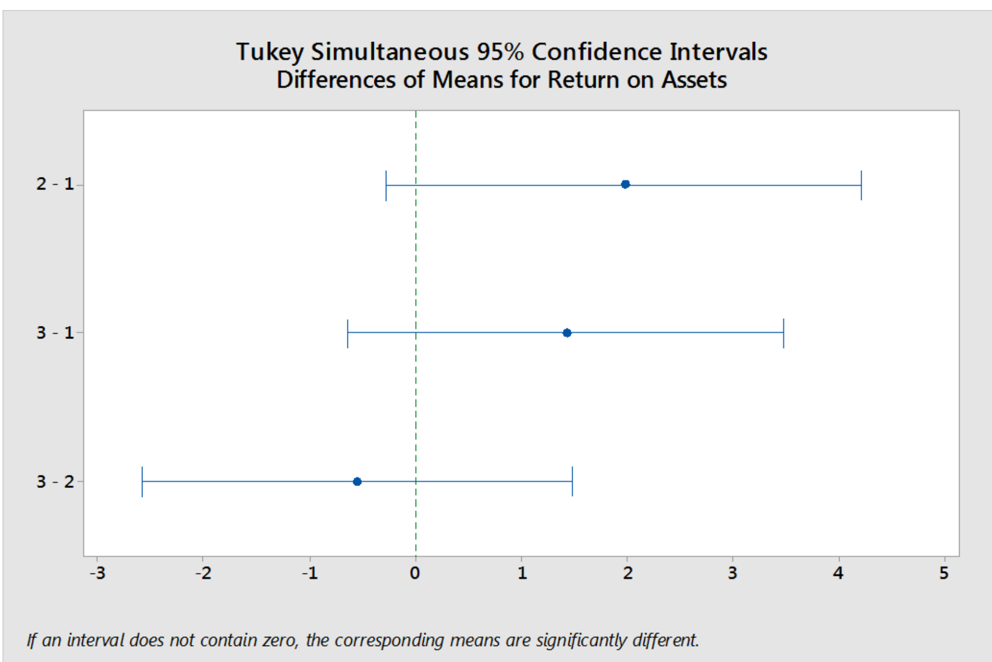
Hypothesis 3 is that firms that offer discretionary products are more profitable on average than firms producing perceived necessities followed by firms producing basic needs.

A one-way ANOVA was performed on the 369 firm years comparing the ROA of firms that offer basic needs (118), perceived necessities (106) and discretionary (145) products. The results are presented below in Table 10 and Figure 10.

Table 10: Necessity and Return On Assets (ROA)

	Mean Return on Assets	Return on Assets *p*-value
Basic Need	6.9	0.103
Perceived Necessity	8.8	
Discretionary	8.3	

Figure 10: Tukey Simultaneous 95% CIs, Difference of Means for Return on Assets (ROA)



(Note: 1 = Basic Need, 2 = Perceived Necessity, 3 = Discretionary Product)

The results do not support the hypothesis that firms that offer discretionary products are more profitable on average than firms producing necessary products. While a difference in profitability for firms offering basic needs was noted, it was not statistically significant, possibly because of a moderate sample size. Another possible explanation is that pharmaceutical and energy firms in the basic needs category operate as regulated oligopolies and can command a price premium.

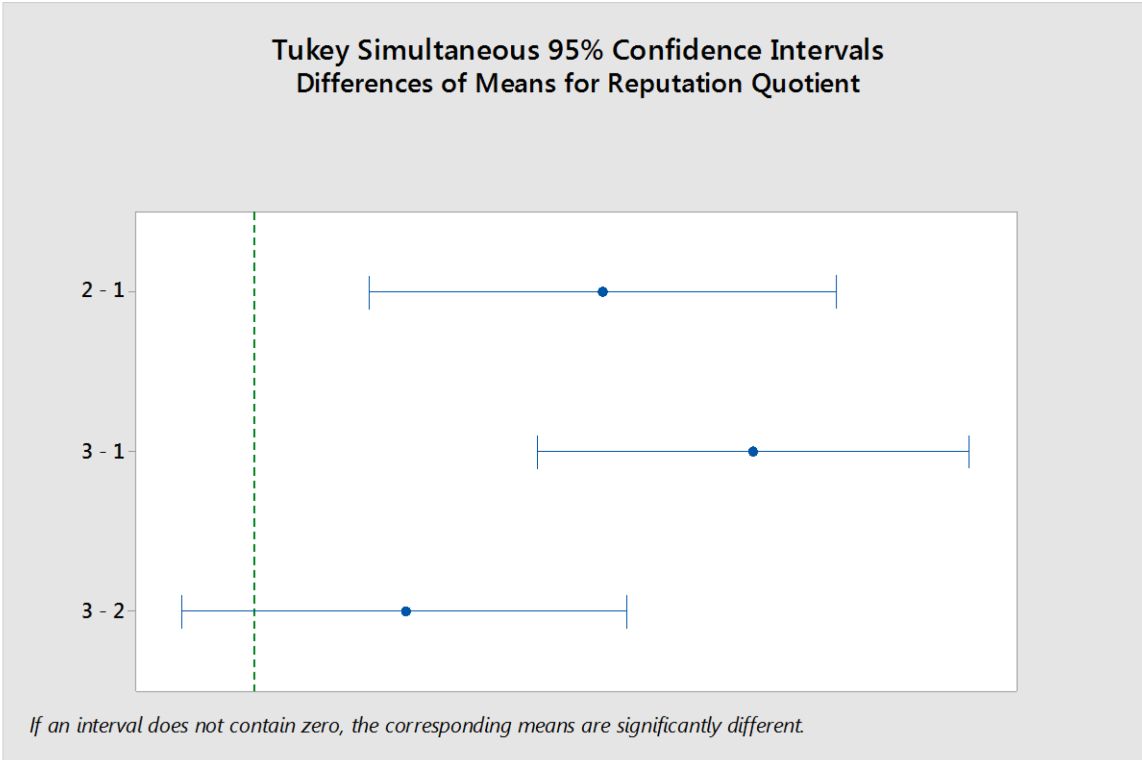
4.3.5. The Effect of Product Necessity on Firm Reputation

Hypothesis 4 is that firms producing discretionary products have a better reputation on average than firms producing perceived necessities followed by basic needs. A one-way ANOVA was performed on the 369 firm years comparing the reputational quotients (RQ) of firms that offer basic needs, perceived necessities and discretionary products. The results are presented below in Table 11 and Figure 11.

Table 11: Necessity and Reputation Quotient (RQ)

	Reputation Quotient (RQ)	Reputation Quotient *p*-value
Basic Need	67.3	0.000
Perceived Necessity	71.4	
Discretionary	73.1	

Figure 11: Tukey Simultaneous 95% CIs, Difference of Means for Reputation Quotient



(Note: 1 = Basic Need, 2 = Perceived Necessity, 3 = Discretionary Product)

A statistically significant relationship was observed between necessity and reputation (RQ). Discretionary product firms received the highest reputation rating followed by perceived necessity firms. Firms offering basic needs received the lowest reputational ratings from consumers, confirming H4. Perceived necessity and discretionary product firms had statistically higher reputations than firms producing basic needs products. Perceived necessities ratings were closer to discretionary firm ratings than basic need firms and not statistically different, similar to the observation for ROA (see Table 10).

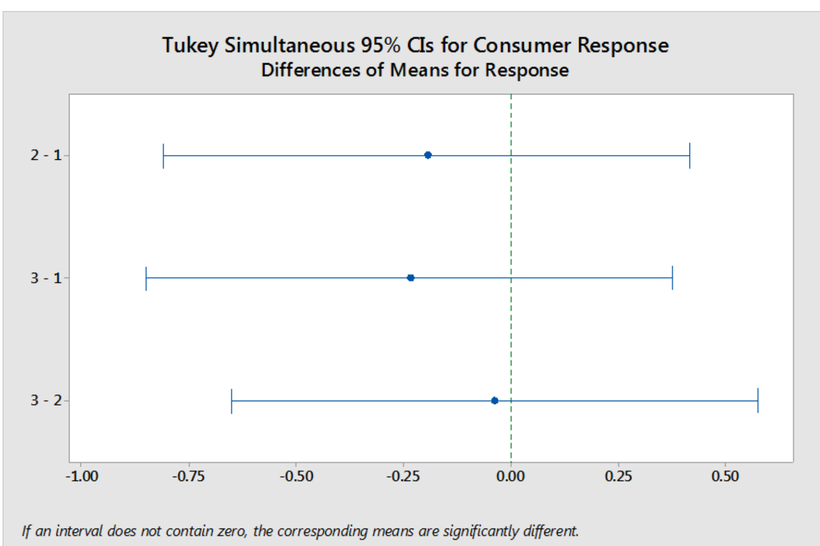
4.3.6. The Effect of Product Necessity on Consumer Response to Price Increases

Hypothesis 5 is that consumers respond more negatively to large price increases of basic needs followed by perceived necessities and then discretionary products. A one-way ANOVA was performed on consumer reactions to price increases of two basic needs, two perceived necessities and two discretionary goods. Consumers responded statistically the same to 50% price increases of all three categories (see Table 12). Differences between pairs of categories were all statistically insignificant (Figure 12). Consumers were generally upset by significant price increases of all products regardless of their level of need. Therefore, H5 is not supported.

Table 12: Consumer Response to 50% Price Increase

Response to Price Increase	Mean Likert Response to Price Increase Survey	Survey Response *p*-value
Basic Need	5.8	0.628
Perceived Necessity	5.6	
Discretionary	5.6	

Figure 12: Tukey Simultaneous 95% CIs for Consumer Response, Differences of Means for Response



(Note: 1 = Basic Need, 2 = Perceived Necessity, 3 = Discretionary Product)

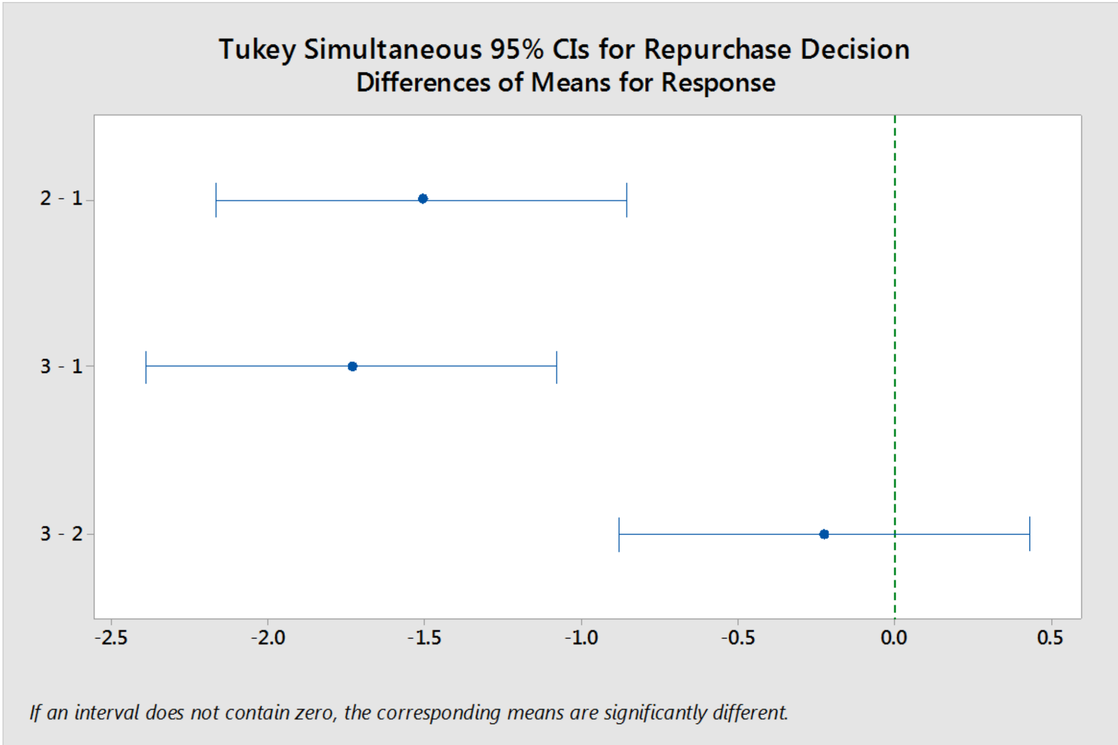
4.3.7. The Effect of Product Necessity on Consumer Repurchase Decisions

Hypothesis 6 is that consumers are more likely to repurchase a basic need than a discretionary one after a large price increase. The effect was tested via a one-way ANOVA of consumer responses of product repurchase after a price increase in the categories of basic needs, perceived necessities and discretionary products. A statistically significant difference was observed (see Table 13). Consumers were somewhat likely to repurchase a basic need even after a 50% price increase whereas they were somewhat unlikely to undecided about repurchasing a perceived necessity or discretionary product. Similar to the analyses in the previous three hypotheses, perceived necessities were statistically similar to discretionary goods but both these categories were statistically different from basic needs (Figure 13). Perceived necessities didn't experience the benefit of basic needs that the consumer can't live without it despite the consumer's perception of need.

Table 13: Repurchase Decision

Repurchase Decision	Mean Likert Response to Repurchase Survey	Repurchase Response *p*-value
Basic Need	5.0	0.000
Perceived Necessity	3.5	
Discretionary	3.2	

Figure 13: Tukey Simultaneous 95% CIs for Repurchase Decision, Differences of Means for Response



(Note: 1 = Basic Need, 2 = Perceived Necessity, 3 = Discretionary Product)

A summary of the findings of all six hypotheses is described in Table 14.

Table 14: Summary of Hypothesis Findings

Hypothesis	Reputation influences financial performance	Findings
Base Assumption	Reputation impacts firm financial performance.	The positive relationship between reputation and profitability was confirmed.
H1	Product necessity of a firm reduces the impact of reputation on profitability.	Supported. For firms that offer basic needs, the relation between reputation and profitability is weak and statistically insignificant whereas firms that offer perceived necessities and discretionary products have strong positive relationships between reputation and profitability.
H2	Product tangibility of a firm reduces the impact of reputation on profitability.	Not supported. The profitability of service firms is 50% more sensitive to reputation than goods however intercepts and slope coefficients are not statistically different from each other
H3	The necessity of a firm's products reduces firm profitability.	Not supported. While a difference in profitability for firms offering basic needs was noted, it was not statistically significant, possibly because of a moderate sample size.
H4	The necessity of a firm's products reduces consumer opinion of firms.	Supported. A positive, statistically significant relationship was observed between neeessity and reputation.
H5	Product necessity reduces consumer opinions of products after large price increases.	Not supported. Consumers respond the same to price increases for all product categories.
H6	Product necessity increases the likelihood of repurchase after a large price increase.	Supported. Consumers were somewhat likely to repurchase a basic need even after a 50% price increase whereas they were somewhat unlikely to undecided about repurchasing a perceived necessity or discretionary product.

4.3.8. Control Variables

Control variables were included in the regression analyses for year, industry and crisis. The risk of confounding between the control, independent and dependent variables was checked using the Pearson correlation.

There is an interaction of both year and crisis with the dependent variable ROA, (see Table 15). There are many reasons for a crisis to have a negative financial impact on firms such as decreased/lost sales, fines, legal fees, remediation costs, etc. This result validates existing research however the crisis interaction was weaker than anticipated. The year correlation, although also weak, was somewhat unexpected. Since economic cycles can impact profitability (and therefore ROA), any relationship in the study was expected to be associated with the Great Recession of 2009. Instead, the year 2006 had a much higher ROA than all other years (perhaps due to the US housing bubble that led to the great recession) and was the only year with a statistically significant different mean (see Figures 14 and 15). The main analyses were run again after dropping observations from 2006 and the results were quantitatively similar.

Table 15: Pearson Correlation of Return on Assets (ROA) and Control Variables

	Return on Assets (ROA)	Industry (IN)	Year (YR)
Industry (IN)	-0.012		
	0.830		
Year (YR)	-0.184	-0.032	
	0.001	0.537	
Crisis (CR)	-0.174	0.097	0.042
	0.002	0.065	0.420

Cell Contents: Pearson correlation
p-value

There is an interaction of IN and CR with the independent variable RQ, both of which are weakly correlated (see Table 16). The crisis correlation was again expected based on prior research. Consumers often negatively view firms in a crisis, particularly those associated with fraud, criminal activity, lawsuits or negative media coverage (Backhaus and Fischer, 2016).

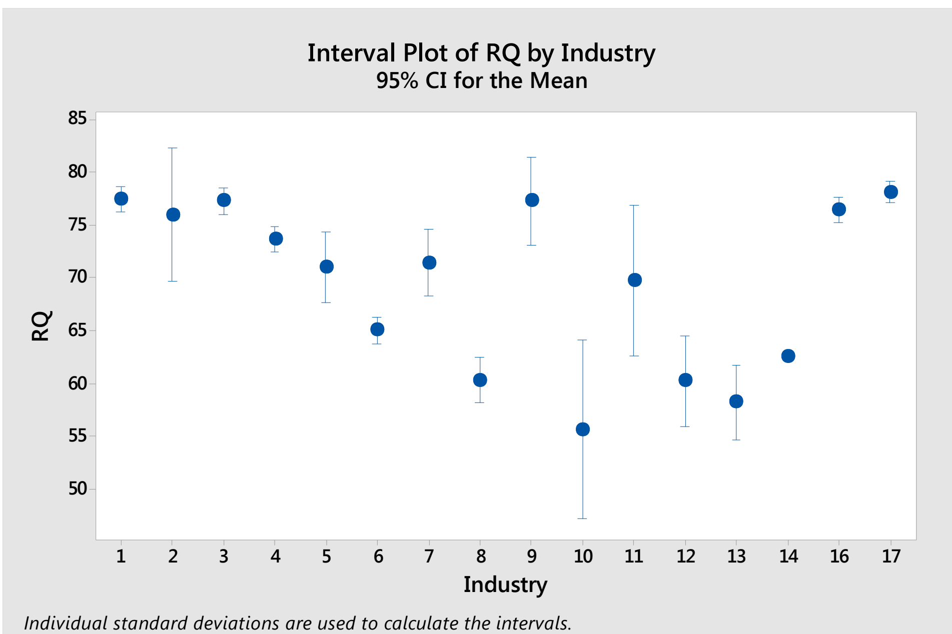
Table 16: Pearson Correlation of RQ and Control Variables

	Reputation Quotient (RQ)	Industry (IN)	Year (YR)
Industry (IN)	-0.028		
	0.598		
Year (YR)	-0.221	-0.037	
	0.000	0.476	
Crisis (CR)	-0.304	0.056	0.145
	0.000	0.366	0.019

Cell Contents: Pearson correlation
p-value

The industry effect was also expected and is predicted by Hypothesis 4 (H4). Firms within industries often exclusively offer either necessary and discretionary products and H4 confirmed that consumers like discretionary goods (and firms) more than necessary goods (and firms) (see Figure 16). The six industries highlighted in figure 16 have the lowest average reputations and are comprised of three basic needs (energy, insurance and banking) and two perceived necessities (financial services and telecom) and are all regulated. The one discretionary product (tobacco) has been plagued with legal and ethical issues for decades and is atypical of discretionary product firms.

Figure 14: Industry (IN) and Reputation Quotient (RQ)



Industries as classified by Harris Survey

1	Technology	7	Manufacturing	13	Banking
2	Travel and Tourism	8	Energy	14	Tobacco
3	Consumer Products	9	Pharmaceutical	15	Government
4	Retail	10	Insurance	16	Food and Restaurant
5	Automotive	11	Airline	17	Delivery Service
6	Telecom	12	Financial Services		

CHAPTER 5

LIMITATIONS

Necessity and reputation are just two of the many variables that affect consumer purchase decisions and firm profitability. Although associations were observed and causality inferred, it is difficult to determine the exact extent of the impact. I tried to consider and control for known variables but limitations still remain.

There are many methods for measuring reputation. I tried to identify and use the most reputable and relevant tool; however, the Harris Reputation Quotient represents only one measure, which could impact generalizability. Many of the same companies reappear year after year in the survey. The sample is therefore over-weighted by some firms whereas others appear infrequently.

The study was limited to firms in the United States because the researcher surveys and Harris survey were performed in the United States. As a result, the study may not be generalizable to other countries.

Only one, large price increase was presented in the price-increase survey. Consumers could respond differently to smaller or larger price increases resulting in different repurchase decisions at those levels. This portion of the study would have benefited from the study of additional price change scenarios as well as by posing different explanations for the price increases.

There is no singly accepted definition of necessity, either as basic needs or perceived necessities. I tried to base the categorizations on existing research and survey data. Because perceptions of necessity can change over time, differences in the categorization of some products (and firms) could change if the study was repeated.

I controlled for variability of profitability over sample years in the statistical analyses. The study used data from a period of ten years but it is recognized that economic cycles can extend over longer periods of time. As a result, a different year effect may be observed if the study was performed over a longer period of time.

Categorization of firms was binary in the attempt to connect products to companies. Many companies, particularly some of the large firms in the Harris Survey offer multiple products. The degree to which a firm offers basic needs, perceived necessities, discretionary products, goods or services was not considered beyond the fact that the majority of their business resided in one category.

CHAPTER 6

INDICATION OF MEANINGFUL CONTRIBUTION (CONCEPTUAL AND MANAGERIAL)

Necessity is the subject of academic theory and marketing strategy. Despite the extensive attention given to the topic, limited empirical evidence has been generated to support the theoretical literature. In addition, much of the market research focus has been on the consumer purchase decision with little attention paid to the impact that product *necessity* has on the consumer, product and the firm. Consumer perception of products is important to companies but it is not the end of the story. Product necessity has an impact on how consumers view a firm and its products that influence purchase decisions. This is particularly significant when consumers' perception of necessity changes as a function of time, income, socio-economic status or culture.

It is important for companies to constantly understand consumer perception of their products as basic needs, perceived necessities or discretionary as part of their marketing plans and the implications of that categorization. Pricing, public relations, regulatory and other activities within a firm are impacted by the moderating and direct effects of necessity. The findings of this study will help managers understand the implications of necessity that should be considered when creating pricing strategies, developing response plans to public relations crises and creating business strategies.

I have identified three categories of need, previously undefined or under researched that invoke different responses from consumers. Firms that offer basic needs are not as well regarded by consumers, but the dependence consumers have on their goods and services buffer suppliers from the negative consequences of consumer displeasure. Discretionary goods do not experience the benefit of consumer reliance and firms that provide them must pay close attention to their reputation. The positive news is that if they do a good job in managing their reputation they will likely reap a financial benefit from those efforts.

Perceived necessities on the other hand act as a hybrid between the two categories and are more likely to change over time. They benefit from some of the advantages of consumer reliance (the extent of which may be the result of their degree of perceived necessity but this was not studied) but are more similar empirically to discretionary products than basic needs. This creates challenges for marketing managers, advertisers, strategists and PR departments who must be aware of the impact of both extremes and identify new ways to manage this product category. Reputation impacts the profitability of firms in this category more than any of the three studied. Firms that operate in this realm must understand and manage consumer emotions and responses associated with basic needs such as pricing and advertising as well as activities associated with discretionary goods such as brand management, reputation and consumer repurchase decisions.

Firm reputation is an important and heavily researched construct. Nonetheless, there are some gaps in existing research. First, research into the value of a good firm reputation far exceeds that conducted on a bad firm reputation. Second, the existing research into the impact of a bad firm reputation only addresses the scenarios of a crisis, sin stocks and counter-culture. Lastly, the impact of reputation on a firm is often evaluated with 0-1 variables with little attention paid to potential modifiers on the financial impact or boundaries.

This research contributes to the current body of knowledge by being the first to demonstrate evidence that product necessity moderates the impact of reputation on firm profitability, reducing the adverse impact of a bad reputation for necessary products. This is consistent with the argument that customers often cannot avoid purchase of a basic need, reducing the impact of reputation on the consumer purchase decision, and ultimately, firm profitability.

Firms often pay very close attention to published, corporate reputation rankings as well as reputational discussions in the media. Many firms allocate significant resources towards managing and improving their reputations. While this may be a wise move based upon the general understanding of the importance of reputation to a firm, managers operate with a limited understanding of the impact that reputation has on company performance. Furthermore, managers are expected to develop strategies to manage and address reputational issues with limited understanding of variables that moderate the impact of reputation, firm performance and consumer behavior. This study provides important information on how reputation may affect firm financial outcomes to support informed decision making about the potential value of those efforts and perhaps, what level of resources should be allocated. Firms that produce basic needs should not expect a significant ROI from reputation management activities compared to firms offering perceived necessities or discretionary products.

The content of this research is suitable for publication in marketing, reputation, public relations and research related journals and forums. Marketing journals include *The Journal of the Academy of Marketing Science, Marketing Science* and *The Journal of Industrial Marketing Management*. Reputation journals include *Reputation Management* and *Corporate Reputation Revie*w and research journals include the *Journal of Business Research*.

Trade magazines, both traditional and digital, represent another avenue for publication. *Campaign* or *Internationalist* trade magazines publish in the area of marketing and *Reputation Today* and *PR Week* cover topics in the areas of reputation and public relations.

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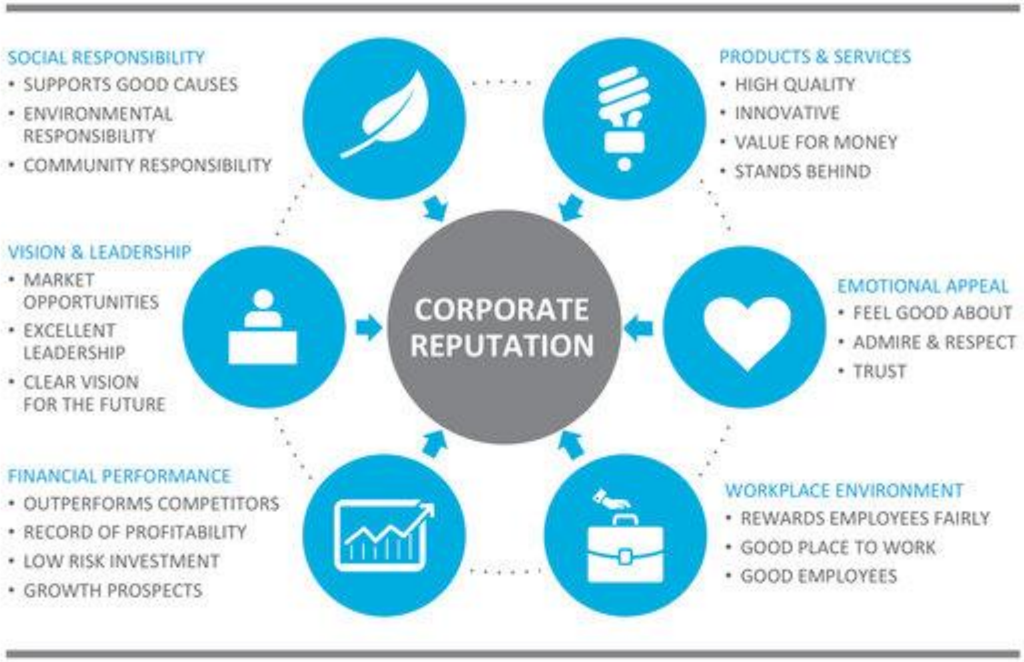
APPENDIX

Attachment A: THE HARRIS REPUTATION QUOTIENT



Attachment B: IRB SUBMISSION 1

***Protocol for Study:* Firm Reputation and Financial Performance: Is a Poor Reputation Always Bad for Business?**

1) Abstract of the study

By comparing the financial performance of firms at the top and bottom of a well-established corporate reputational survey, I find that a poor reputation is not necessarily bad for business. Under limited conditions, firms with a poor reputation may perform the same as or even better than their better reputed counterparts. I attribute this counter-intuitive finding to specific factors that moderate how poor reputations affect firms. I argue that a poor corporate reputation is less likely to hurt sales of tangible goods than intangible services, because assessing quality for the latter is inherently difficult and customers often rely on seller reputation to choose providers. I also argue that a necessary product is less likely to be adversely impacted than a discretionary one because in many cases the customers cannot avoid purchase of the product or service.

2) Protocol Title

Necessity of Goods and Services

3) Investigator(s)

John M. Abt, Temple Fox School of Business, eDBA Candidate

4) Objectives

In order to perform the above study, it is necessary to understand how consumers categorize goods and services offered by firms included in the Harris Reputational Survey. More specifically, whether consumers consider their products to be necessary or discretionary?

5) Rationale and Significance

In recent years, discretionary or luxury goods and services have transformed into necessary products, particularly in more developed countries and those where income has risen unequally. For example, only rich people could once afford home computers or high speed Internet, but today they are affordable and considered necessary by many U.S. residents. “Perceived necessity” arises when a person considers a good or service to be (personally) necessary to function in his/her economy. This concept deviates from Maslow's hierarchy of needs often used to define "necessary" in much of the existing research

Firms develop marketing strategies by appealing to the wants and needs of consumers. Marketing research historically placed products into the distinct categories of utilitarian (necessary) or hedonic (discretionary) to empirically study such decisions. Modern marketing researchers now realize that a product may be perceived differently (as utilitarian or necessary) by different people. This new perspective, along with the understanding that a consumer's perception of a product may change over time or as a function of the health of the economy may impact inferences from prior research.

This is an interesting and evolving area of consumer research that lacks a good understanding of the impact that (perceived) necessity has on consumer opinions of firms and purchase decisions. This gap is significant because necessity is a primary consideration and driver of consumer behavior. The underlying questions are therefore important to academics that research this topic, consumer's who purchase goods and services and firms that develop marketing plans in order to sell to these consumers.

6) Resources and Setting

The investigator involved with this study actively participated in the design of this protocol and is familiar with the instruments and the procedure.

Participation in the study requires anonymous completion of a short, online questionnaire. Subjects will read a list of 31 goods or services and be asked to identify them as necessary or discretionary. I will later aggregate their responses in order to categorize the goods and services for further analysis. There is no specific location where the research must be performed. I will recruit subjects and deliver the survey using Amazon Mechanical Turk (www.mturk.com) (see question 8).

7) Prior Approvals

N/A

8) Study Design

a) Recruitment Methods

Describe how many subjects will be needed.

I estimate that 100 subjects will be needed.

Describe when, where, and how potential subjects will be identified and recruited.

Subjects will be recruited using the Amazon Mechanical Turk (AMT) service. AMT is a platform for matching workers with small, discrete tasks. Since no specific skills are required for this task and the task is simple and non-invasive, AMT is an appropriate source for this study.

There are no demographic restrictions on who can or cannot participate in this study (except for the ability to read English).

Describe materials that will be used to recruit subjects, e.g., advertisements.

There will be no recruitment materials. I will post the survey through Amazon Mechanical Turk with a brief description of the purpose of the study. I will make it clear that participation is optional.

Describe any payments to subjects, including the amount, timing (at the end of the study or pro-rated for partial study participation), method (e.g., cash, check, gift card), and whether subjects will experience a delay in receiving the payment.

All subjects who participate will receive approximately $1 for completing the online survey. The payment will be made automatically via the Amazon payment system. Due to the nature of payment system, there will be up to 24 hours delay in payment after the subject completes the study.

b) Inclusion and Exclusion Criteria

N/A

c) Study Timelines

- I estimate the entire survey will require less than ten minutes to complete.
- Participation is open to anyone that meets the AMT threshold, but participants are limited to finish only one hit.
- The entire study is expected to be complete by January 15, 2017.

d) Study Procedures and Data Analysis

Subjects will complete the online questionnaire through Amazon Mechanical Turk:

1) Subjects will read a list of 31 goods and services and be asked to identify them, in their opinion, as necessary or discretionary. I will later aggregate all the responses to categorize the products being evaluated in my research.

The entire procedure will take about 10 minutes to complete.

No names or demographic information will be requested or collected in this study.

e) Withdrawal of Subjects

Subjects may withdraw from the study simply by ending the task early. No contact with the investigator is required.

There are no circumstances where a subject will be removed from the study without his or her consent.

f) Privacy and Confidentiality

- The study will not use or disclose subjects' personal information (which will not be collected).
- The data will be stored on a password-protected computer. Regardless, there will be no personally-identifiable information in the data set.
- The study results will be presented in aggregate form in working and completed research papers. The results will not be able to be traced back to individual responses.
- I will ensure that the subjects are aware that I will anonymize the data so that individual responses cannot be linked back to their name. I will explain this during recruitment.

g) Risks to Subjects

There are no risks to subjects in this study.

9) Potential Benefits to Subjects

There is no direct benefit to individual subjects, other than the payment they will receive for completing the task.

10) Costs to Subjects

None

11) Informed Consent

Informed consent will be obtained via qualification through Amazon Mechanical Turk. Qualification is an Amazon Mechanical Turk feature that enforces a requirement that a worker has to meet in order to be assigned the task. Consent will take place as qualification before they can complete the task.

- It will be made clear during the consent process that participation is optional and they can leave at any time.

  The study will be explained during the consent process (before they acknowledge their consent through the online form).

- *Vulnerable Populations*

N/A – None of these populations will be part of this study.

This survey will follow HRP-802 INVESTIGATOR GUIDANCE: Informed Consent.

Indicate whether you will include any of the following populations:

Individuals who are not yet adults (infants, children, teenagers)*- If so, review t*he CHECKLIST: Criteria for Research Involving Children to ensure that you have provided sufficient information in this protocol to allow the enrollment of children.

Pregnant women- If so, review the CHECKLIST: Criteria for Research Involving Pregnant Women to ensure that you have provided sufficient information in this protocol to allow the enrollment of pregnant women.

Prisoners- If so, review the CHECKLIST: Criteria for Research Involving Prisoners to ensure that you have provided sufficient information in this protocol to allow the enrollment of prisoners.

Adults unable to consent- If so, review the CHECKLIST: Criteria for Research Involving Cognitively Impaired Adults to ensure that you have provided sufficient information in this protocol to allow the enrollment of cognitively impaired adults.

Informed Consent

Title of research: An investigation of company reputation, products and services

Investigator and Department*:* John M. Abt is a doctoral (eDBA) candidate at the Temple University Fox School of Business. Sudipta Basu is the Advisor.

Why am I being invited to take part in this research?

We invite you to take part in a research study because you are a consumer of goods and services.

What should I know about this research?

- This survey will assist in research that will assess the impact of consumer perception of products and services
- You can choose not to take part in this research by not taking part in this survey.

Why is this research being done?

This research attempts to better understand consumer opinions about products, services and firm performance.

How long will I be in this research?

We expect that it will take you less than 10 minutes to complete this survey.

What happens if I agree to be in this research?

Your involvement in this research, should you agree to participate, will require you to complete a brief survey. You will be presented with a variety of goods and services and asked whether you perceive them to be necessary or discretionary.

What happens to the information collected for this research?

The information collected from individuals via this survey will be aggregated and used as part of a statistical analysis.

What will I be paid for taking part in this research?

If you agree to take part in this survey, we will pay you $1.00 for your time and effort. Federal tax law requires to you to report this payment as income.

Who can I talk to about this research?

If you have questions, concerns, or complaints, or think the research has hurt you, contact the research team at john.abt@temple.edu. This research has been reviewed and approved by an Institutional Review Board. You may talk to them at (215) 707-3390 or e-mail them at: irb@temple.edu for any of the following:

- Your questions, concerns, or complaints are not being answered by the research team.
  - You cannot reach the research team.
  - You want to talk to someone besides the research team.

- You have questions about your rights as a research subject.
- You want to get information or provide input about this research.

Survey

Research Participant Instructions:

You will be presented with a variety of goods and services asked to categorize them as necessary or discretionary based on your personal perception.

Necessary is defined as needed or considered to be required to effectively function in the society in which you live. It is something you cannot live without.

Discretionary good and services are defined as non-essential and therefore are often considered "luxuries" that are obtained after necessary goods and services are secured.

Questions:

1. Soft drinks/snacks
2. Bottled water
3. Smart phones
4. Automobiles
5. Public transportation
6. Movies
7. A store that sells goods or services available at other stores
8. Personal entertainment electronics (audio equipment, video games, etc.)
9. Automobile insurance
10. Life insurance
11. Processed foods
12. Fresh meat/produce
13. Personal care items (shampoo, deodorant, toothpaste, etc.)
14. Internet search engines/content
15. Exercise/sporting goods and apparel
16. Prescription drugs
17. Over the counter drugs
18. Home appliances
19. Credit cards
20. Fast food
21. Airline travel
22. Computers/Tablets
23. Oil/Gasoline
24. Cellular phone service
25. Cable/Satellite TV service
26. Internet Service
27. Banking (savings/checking/loans)
28. Investment/financial services
29. Industrial chemicals
30. Warehouse/home improvement stores
31. Computer software

Attachment C: IRB APPROVAL

TEMPLE UNIVERSITY
Research Administration

Protocol Number: PI: Review Type: Approved On: Approved From: Approved To: Committee: School/College: Department: Sponsor: Project Title:

Research Integrity & Compliance Student Faculty Center 3340 N. Broad Street, Suite 304 Philadelphia PA 19140

Certification of Approval for a Project Involving Human Subjects

24080 BASU, SUDIPTA EXEMPT 21-Dec-2016

A2 BUSINESS SCHOOL (1500) BUSINESS:MA/MS/PH.D PROGRAM (15230) NO EXTERNAL SPONSOR Necessity of Goods and Services

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The IRB approved the protocol 24080.

If the study was approved under expedited or full board review, the approval period can be found above. Otherwise, the study was deemed exempt and does not have an IRB approval period.

If applicable to your study, you can access your IRB-approved, stamped consent document or consent script through eRA. **Open the Attachments tab and open the stamped documents by clicking the View icon next to each document**. The stamped documents are labeled as such.

Before an approval period ends, you must submit the Continuing Review form via the eRA module. Please note that though an item is submitted in eRA, it is not received in the IRB office until the principal investigator approves it. Consequently, please submit the Continuing Review form via the eRA module at least 60 days, and preferably 90 days, before the study's expiration date.

Note that all applicable Institutional approvals must also be secured before study implementation. These approvals include, but are not limited to, Medical Radiation Committee (“MRC”); Radiation Safety Committee (“RSC”); Institutional Biosafety Committee ("IBC"); and Temple University Survey Coordinating Committee ("TUSCC"). Please visit these Committees’ websites for further information.

Finally, in conducting this research, you are obligated to submit modification requests for all changes to any study; reportable new information using the Reportable New Information form; and renewal and closure forms. For the complete list of investigator responsibilities, please see the Policies and Procedures, the Investigator Manual, and other requirements found on the Temple University IRB website: http://www.temple.edu/research/regaffairs/irb/index.html

Institutional Review Board Phone: (215) 707-3390 Fax: (215) 707-9100 e-mail: irb@temple.edu

Date: 21-Dec-2016

Please contact the IRB at (215) 707-3390 if you have any questions

<u>Attachment D: IRB SUBMISSION 2</u>

Protocol for Study: The Impact of Product Necessity on Company Reputation and Financial Performance

1) Abstract of the study

By comparing the reputational measures of well-established firms that offer necessary and discretionary goods and services (products) with their financial performance, I find that (perceived) necessity has a mediating effect on consumer opinions of firms and their financial outcomes. Consumers tend to have higher opinions of firms that offer discretionary products than those that offer necessary products. Firms that offer discretionary products typically perform financially better than companies that offer necessary products. I argue that consumers tend to "like" firms that offer what they want more than those that offer what they need and are willing to pay a premium for their discretionary products despite their being unnecessary. As a result, consumers are expected to be more tolerant of price increases for discretionary products but less likely to repurchase them than for necessary products.

2) Protocol Title

Consumer Reaction to Price Increases of Necessary and Discretionary Products

3) Investigator(s)

Sudipta Basu, Advisory Chair, Accounting

John M. Abt, Temple Fox School of Business, eDBA Candidate

4) Objectives

Determine how consumers react to price increases of goods and services offered by firms in the annual Harris Reputation Survey.

5) Rationale and Significance

Current consumer research lacks a good understanding of how (perceived) necessity affects consumer opinions of firms and purchase decisions. This gap is significant because necessity is a primary consideration and driver of consumer behavior. The underlying questions are therefore important to academics who research this topic, consumers who purchase goods and firms that develop marketing plans in order to sell to these consumers.

6) Resources and Setting

The investigator involved with this study actively participated in the design of this protocol and is familiar with the instruments and the procedure.

Participation in the study requires anonymous completion of a short, online questionnaire. Subjects will read a list of 88 questions during which they will be asked how they would feel after various levels of price increases for a product and their likelihood of repurchasing the product. There is no specific location where the research must be performed. I will recruit subjects and deliver the survey using Amazon Mechanical Turk (www.mturk.com) (see question 8).

7) Prior Approvals

N/A

8) Study Design

A. Recruitment Methods

Describe how many subjects will be needed.

I estimate that 100 subjects will be needed.

Describe when, where, and how potential subjects will be identified and recruited.

Subjects will be recruited using the Amazon Mechanical Turk (AMT) service. AMT is a platform for matching workers with small, discrete tasks. Since no specific skills are required for this task and the task is simple and non-invasive, AMT is an appropriate source for this study.

There are no demographic restrictions on who can or cannot participate in this study (except for the ability to read English).

Describe materials that will be used to recruit subjects, e.g., advertisements.

There will be no recruitment materials. I will post the survey through Amazon Mechanical with a brief description of the purpose of the study. I will make it clear that participation is optional.

Describe any payments to subjects, including the amount, timing (at the end of the study or pro-rated for partial study participation), method (e.g., cash, check, gift card), and whether subjects will experience a delay in receiving the payment.

All subjects who participate will receive approximately $1 for completing the online survey. The payment will be made automatically via the Amazon payment system. Due to the nature of payment system, there will be up to 24 hours delay in payment after the subject completes the study.

a) Inclusion and Exclusion Criteria

N/A

b) Study Timelines

- I estimate the entire survey will require less than ten minutes to complete.
- Participation is open to anyone that meets the AMT threshold, but participants are limited to finish only one hit.
- The entire study is expected to be complete by February 28, 2017.

c) Study Procedures and Data Analysis

Subjects will complete the online questionnaire through Amazon Mechanical Turk:

Subjects will read a list of 88 goods or services and be asked how they would feel after various levels of price increases for that product and their likelihood of repurchasing the product.

The entire procedure will take about 15 minutes to complete.

No names or demographic information will be requested or collected in this study.

d) Withdrawal of Subjects

Subjects may withdraw from the study simply by ending the task early. No contact with the investigator is required.

There are no circumstances where a subject will be removed from the study without his or her consent.

e) Privacy & Confidentiality

- The study will not use or disclose subjects' personal information (which will not be collected).
- The data will be stored on a password-protected computer. Regardless, there will be no personally-identifiable information in the data set.
- The study results will be presented in aggregate form in working and completed research papers. The results will not be able to be traced back to individual responses.

- I will ensure that the subjects are aware that I will anonymize the data so that individual responses cannot be linked back to their name. I will explain this during recruitment.

f) Risks to Subjects

There are no risks to subjects in this study.

9) Potential Benefits to Subjects

There is no direct benefit to individual subjects, other than the payment they will receive for completing the task.

10) Costs to Subjects

None

11) Informed Consent

The informed consent will be obtained via qualification through Amazon Mechanical Turk. Qualification is an Amazon Mechanical Turk feature that enforces a requirement that a worker has to meet in order to be assigned the task. Consent will take place as qualification before they can complete the task.

- It will be made clear during the consent process that participation is optional and they can leave at any time.

The study will be explained during the consent process (before they acknowledge their consent through the online form).

- *Vulnerable Populations*

N/A – None of these populations will be part of this study.

This survey will follow HRP-802 INVESTIGATOR GUIDANCE: Informed Consent.

Attachment E: IRB EXEMPTION

Research Integrity & Compliance Student Faculty Center 3340 N. Broad Street, Suite 304 Philadelphia PA 19140

Institutional Review Board Phone: (215) 707-3390 Fax: (215) 707-9100 e-mail: irb@temple.edu

Date: 16-Jan-2017

TEMPLE UNIVERSITY

Research Administration

PI: Committee: Protocol Number: Project Title:

BASU, SUDIPTA A 1 24234 The impact of product necessity on company reputation and financial performance

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Not Human Subject Research Determination The proposed activity is not research involving human subjects as defined by DHHS or FDA regulations. Consequently, Temple IRB review and approval is not applicable. You are welcome to pursue the activity, obtaining any applicable administrative or departmental (non-IRB) approvals. This determination applies only to the activities described in this IRB submission and does not apply should any changes be made. Changes could affect this determination, therefore please contact the IRB for guidance. DHHS Definitions: Research - a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge. Human subject - a living individual about whom an investigator (whether professional or student) conducting research obtains: (1) Data through intervention or interaction with the individual; or (2) Identifiable private information. FDA Definitions: Research - any experiment that involves a test article and one or more human subjects, and that either must meet the requirements for prior submission to the Food and Drug Administration Human subject - an individual who is or becomes a participant in research, either as a recipient of the test article or as a control. A subject may be either a healthy individual or a patient.

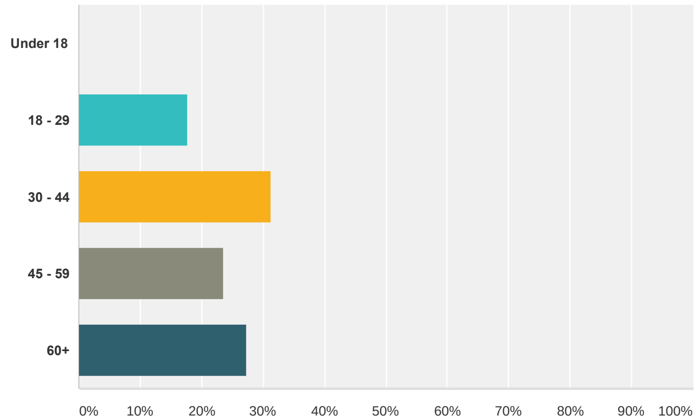
Please contact the IRB at (215) 707-3390 if you have any questions.

Attachment F: PRICE RESPONSE SURVEY RESULTS AND DEMOGRAPHICS

How would you feel if the price of the following increased by 50%?	Extremely Upset	Upset	Somewhat Upset	Undecided	Somewhat Indifferent	Indifferent	Wouldn't Notice
Your prescription blood pressure medication	49.02%	21.57%	7.84%	5.88%	1.96%	3.92%	9.80%
Gasoline	62.75%	13.73%	7.84%	3.92%	3.92%	5.88%	1.96%
Your life insurance policy	50.98%	23.53%	5.88%	7.84%	1.96%	0.00%	9.80%
Airfare	43.13%	27.45%	3.92%	3.92%	9.80%	3.92%	7.84%
Satellite, cable television or streaming video service	52.94%	23.53%	9.80%	0.00%	3.92%	0.00%	9.80%
Your snacks/soft drinks	33.33%	23.53%	21.57%	1.96%	5.88%	9.80%	3.92%
How likely is it that you would repurchase the product after the price increase?	**Very Likely**	**Likely**	**Somewhat Likely**	**Undecided**	**Somewhat Unlikely**	**Unlikely**	**Very Unlikely**
Your prescription blood pressure medication	17.65%	15.69%	9.80%	19.61%	7.84%	11.76%	17.65%
Gasoline	45.10%	25.49%	13.73%	7.84%	3.92%	0.00%	3.92%
Your life insurance policy	5.88%	13.73%	9.80%	23.53%	9.80%	7.84%	29.41%
Airfare	5.88%	9.80%	17.65%	17.65%	15.69%	11.76%	21.57%
Satellite, cable television or streaming video service	3.92%	11.76%	11.76%	13.73%	3.92%	27.45%	27.45%
Your snacks/soft drinks	7.84%	11.76%	19.61%	9.80%	7.84%	11.76%	31.37%

Q13 What is your age?

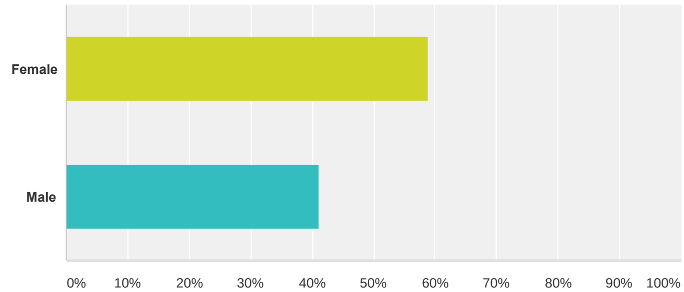
Answered: 51 Skipped: 0



Answer Choices	Responses	
Under 18	0.00%	0
18 - 29	17.65%	9
30 - 44	31.37%	16
45 - 59	23.53%	12
60+	27.45%	14
Total		51

Q14 What is your gender?

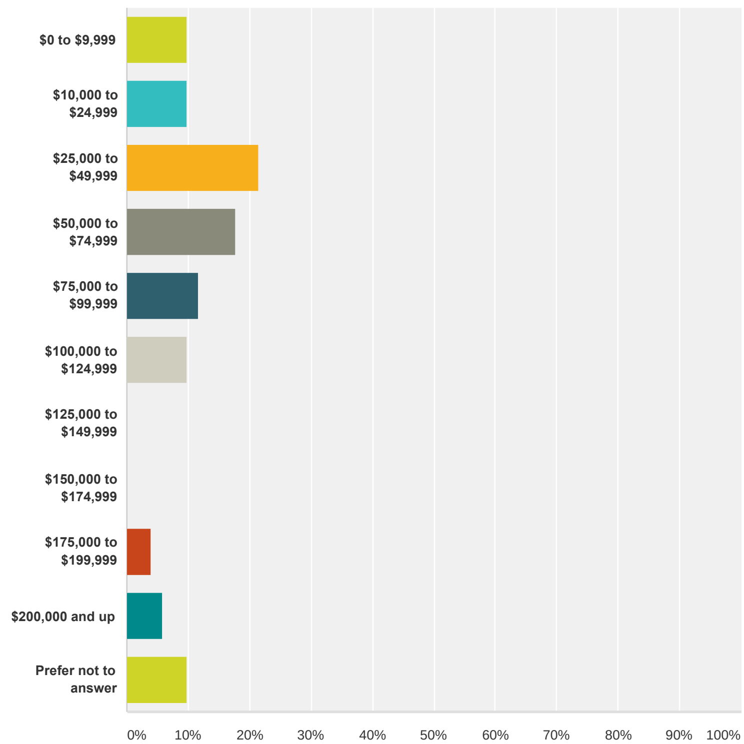
Answered: 51 Skipped: 0



Answer Choices	Responses	
Female	**58.82%**	30
Male	**41.18%**	21
Total		**51**

Q15 How much total combined money did all members of your HOUSEHOLD earn last year?

Answered: 51 Skipped: 0

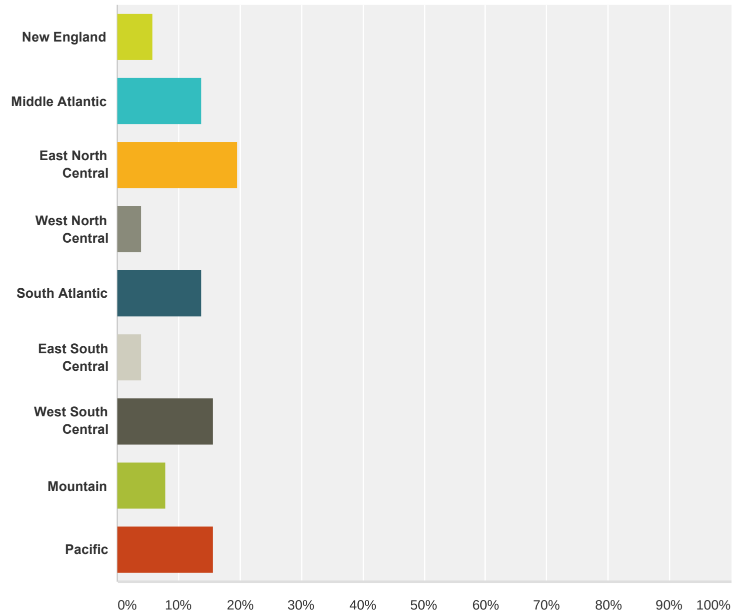


Answer Choices	Responses	
$0 to $9,999	9.80%	5
$10,000 to $24,999	9.80%	5
$25,000 to $49,999	21.57%	11
$50,000 to $74,999	17.65%	9
$75,000 to $99,999	11.76%	6
$100,000 to $124,999	9.80%	5
$125,000 to $149,999	0.00%	0
$150,000 to $174,999	0.00%	0

$175,000 to $199,999	**3.92%**	2
$200,000 and up	**5.88%**	3
Prefer not to answer	**9.80%**	5
Total		**51**

Q16 US Region

Answered: 51 Skipped: 0



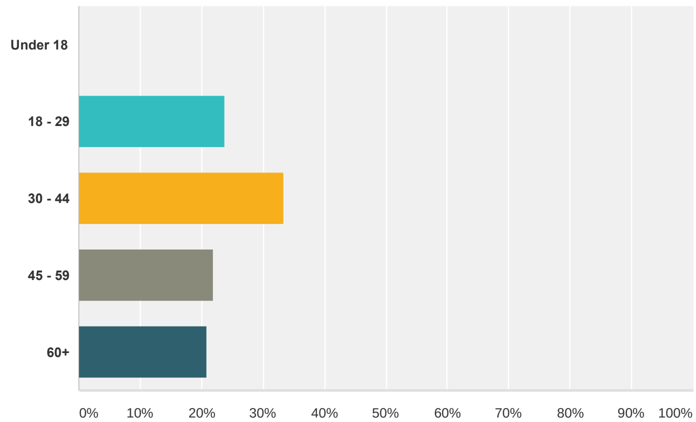
Answer Choices	Responses	
New England	5.88%	3
Middle Atlantic	13.73%	7
East North Central	19.61%	10
West North Central	3.92%	2
South Atlantic	13.73%	7
East South Central	3.92%	2
West South Central	15.69%	8
Mountain	7.84%	4
Pacific	15.69%	8
Total		51

Attachment G: NECESSITY SURVEY RESULTS AND DEMOGRAPHICS:

Product	**Necessary**	**Discretionary**
Personal consumer products (shampoo, toothpaste, deodorant, etc.)	95.24%	4.76%
Oil or gasoline	93.33%	6.67%
Automobile insurance	90.48%	9.52%
Prescription drugs	90.48%	9.52%
Automobiles	89.52%	10.48%
Banking (savings, checking, loans)	88.57%	11.43%
Home appliances	86.67%	13.33%
Over the counter drugs	83.81%	16.19%
Internet service	74.29%	25.71%
Home consumer goods (tape, glue, paint, etc.)	72.38%	27.62%
Cellular phone service	72.38%	27.62%
Computers or tablets	71.43%	28.57%
Internet search engines	66.67%	33.33%
Life insurance	65.71%	34.29%
Computer software	64.76%	35.24%
A chain grocery store	50.48%	49.52%
Airline travel	50.48%	49.52%
Investment or financial services	47.62%	52.38%
Warehouse or home improvement chain store	47.62%	52.38%
Smart phones	46.67%	53.33%
Internet content sites	46.67%	53.33%
A chain "brick and mortar", discount or retail store	40.00%	60.00%
An online, discount or retail store	39.05%	60.95%
Exercise or sporting goods and apparel	32.38%	67.62%
Credit cards	31.43%	68.57%
Industrial chemicals	29.52%	70.48%
Cable or satellite TV service	26.67%	73.33%
Movies/Films	24.76%	75.24%
Personal entertainment electronics (audio equipment, video games, etc.)	22.86%	77.14%
Express delivery service	20.95%	79.05%
Processed or pre-packaged food	18.10%	81.90%
Soft drinks or snacks	17.14%	82.86%
Fast food restaurants	15.24%	84.76%
Tobacco products	4.81%	95.19%

Q35 What is your age?

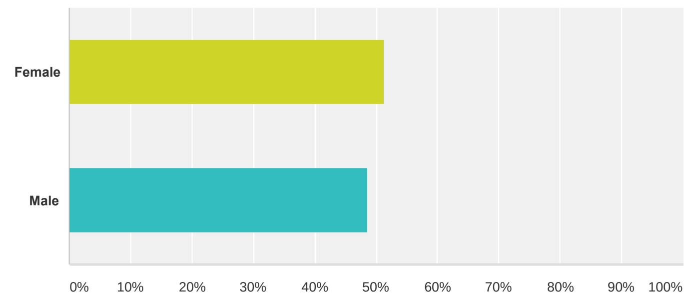
Answered: 105 Skipped: 0



Answer Choices	Responses	
Under 18	0.00%	0
18 - 29	23.81%	25
30 - 44	33.33%	35
45 - 59	21.90%	23
60+	20.95%	22
Total		105

Q36 What is your gender?

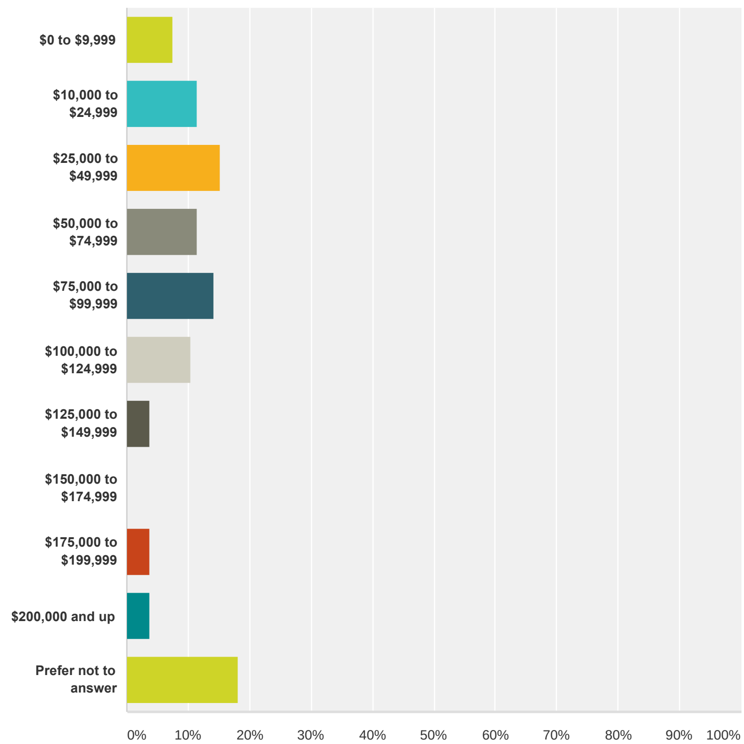
Answered: 105 Skipped: 0



Answer Choices	Responses	
Female	51.43%	54
Male	48.57%	51
Total		**105**

Q37 How much total combined money did all members of your HOUSEHOLD earn last year?

Answered: 105 Skipped: 0

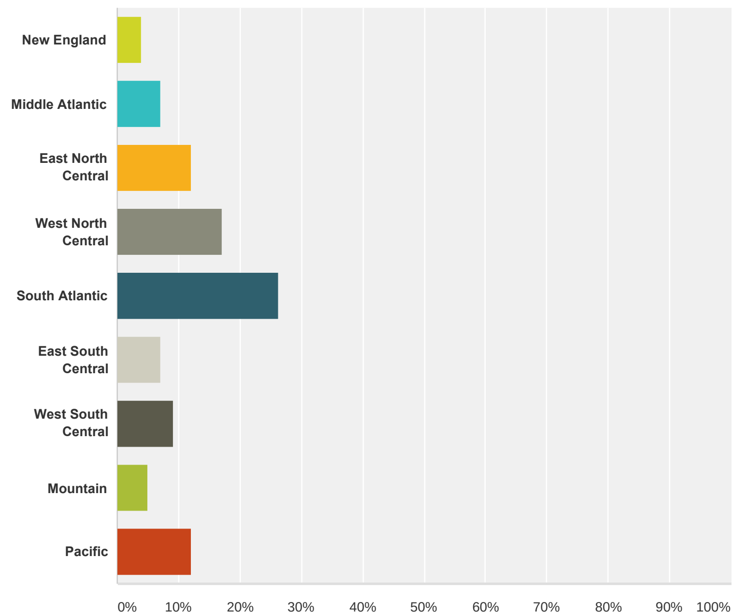


Answer Choices	Responses	
$0 to $9,999	7.62%	8
$10,000 to $24,999	11.43%	12
$25,000 to $49,999	15.24%	16
$50,000 to $74,999	11.43%	12
$75,000 to $99,999	14.29%	15
$100,000 to $124,999	10.48%	11
$125,000 to $149,999	3.81%	4
$150,000 to $174,999	0.00%	0

$175,000 to $199,999	**3.81%**	4
$200,000 and up	**3.81%**	4
Prefer not to answer	**18.10%**	19
Total		**105**

Q38 US Region

Answered: 99 Skipped: 6



Answer Choices	Responses	
New England	4.04%	4
Middle Atlantic	7.07%	7
East North Central	12.12%	12
West North Central	17.17%	17
South Atlantic	26.26%	26
East South Central	7.07%	7
West South Central	9.09%	9
Mountain	5.05%	5
Pacific	12.12%	12
Total		99

Attachment H: FIRMS FINANCIAL DATA TABLE

Firm	Ticker	NC	Yr	IN	PS	CR	RQ	ROA	REV	PF	PM
Allstate	ALL	1	14	10	2	0	72.8	2.6	34826	4326	12.4
Allstate	ALL	1	10	10	2	0	67.2	0.9	31311	1126	3.6
Allstate	ALL	1	9	10	2	0	67.2	0.8	32154	1248	3.9
Allstate	ALL	1	8	10	2	0	66.1	-0.9	29466	-3025	-10.3
Allstate	ALL	1	6	10	2	0	64.2	3.3	35796	7178	20.1
Bank of America	BAC	1	14	13	2	0	55.3	*	95181	6855	7.2
Bank of America	BAC	1	13	13	2	0	55.9	*	101697	16172	15.9
Bank of America	BAC	1	12	13	2	1	49.9	*	99708	3072	3.1
Bank of America	BAC	1	10	13	2	1	57.7	*	134194	-1323	-1.0
Bank of America	BAC	1	9	13	2	1	57.7	*	150450	4360	2.9
Bank of America	BAC	1	8	13	2	1	62.6	*	113106	4428	3.9
Bank of America	BAC	1	6	13	2	1	67.6	*	115689	31973	27.6
BP	BP	1	14	8	1	0	57.0	1.6	353568	4950	1.4
BP	BP	1	13	8	1	1	56.6	8.0	379136	30221	8.0
BP	BP	1	12	8	1	1	53.5	4.2	375580	18809	5.0
BP	BP	1	8	8	1	0	66.7	9.8	361143	34283	9.5
BP	BP	1	6	8	1	1	64.0	*	265906	35142	13.2
Chevron	CVX	1	12	8	1	0	64.7	11.9	222580	46332	20.8
Chevron	CVX	1	8	8	1	0	64.8	15.8	255112	43057	16.9
Chevron	CVX	1	6	8	1	0	63.4	13.7	195341	32046	16.4
Citigroup	C	1	14	13	2	1	63.6	0.6	90572	14364	15.9
Citigroup	C	1	13	13	2	0	55.9	1.1	92543	19497	21.1
Citigroup	C	1	12	13	2	0	56.0	1.1	96997	7936	8.2
Citigroup	C	1	10	13	2	1	50.6	1.3	111465	13184	11.8
Citigroup	C	1	9	13	2	1	50.6	0.8	104159	-7799	-7.5
Citigroup	C	1	8	13	2	1	54.8	*	104605	-53055	-50.7
Citigroup	C	1	6	13	2	1	66.7	*	146905	29639	20.2
Exxon Mobil	XOM	1	14	8	1	0	64.5	9.5	364763	51630	14.2
Exxon Mobil	XOM	1	13	8	1	0	64.4	9.6	390247	57711	14.8
Exxon Mobil	XOM	1	12	8	1	0	60.0	13.7	420714	78726	18.7
Exxon Mobil	XOM	1	10	8	1	0	60.9	11.5	341578	52959	15.5
Exxon Mobil	XOM	1	9	8	1	0	60.9	8.6	275564	34777	12.6
Exxon Mobil	XOM	1	8	8	1	0	57.8	21.5	425071	83397	19.6
Exxon Mobil	XOM	1	6	8	1	0	60.7	20.6	335086	68453	20.4
Fannie Mae	FNMA	1	9	13	2	1	41.8	-5.3	32201	**	**
Ford	F	1	14	5	1	0	74.0	3.0	144077	4342	3.0
Ford	F	1	13	5	1	0	75.0	5.7	146917	7001	4.8
Ford	F	1	12	5	1	0	74.8	4.8	134252	7720	5.8
Ford	F	1	10	5	1	1	69.8	6.8	128954	7149	5.5
Ford	F	1	9	5	1	1	69.8	4.5	118308	3026	2.6
Ford	F	1	8	5	1	1	58.5	-1.5	146277	-14404	-9.8

Ford	F	1	6	5	1	0	62.7	-1.0	160123	-15051	-9.4
Freddie Mac	FMCC	1	9	13	2	1	38.9	0.1	38182	-22384	-58.6
GE	GE	1	14	7	1	0	77.2	3.6	146156	17229	11.8
GE	GE	1	13	7	1	0	71.9	3.4	141024	16151	11.5
GE	GE	1	12	7	1	0	72.6	3.5	144796	17406	12.0
GE	GE	1	10	7	1	0	74.6	3.5	149060	14208	9.5
GE	GE	1	9	7	1	0	74.6	3.8	155777	10334	6.6
GE	GE	1	8	7	1	0	74.2	6.4	180929	19782	10.9
GE	GE	1	6	7	1	0	75.3	6.5	160854	25528	15.9
General Motors	GM	1	14	5	1	1	67.8	3.3	155929	4246	2.7
General Motors	GM	1	13	5	1	0	64.4	3.9	155427	7458	4.8
General Motors	GM	1	12	5	1	0	65.3	4.8	152256	-28695	-18.8
General Motors	GM	1	10	5	1	1	53.6	5.3	135592	7175	5.3
General Motors	GM	1	9	5	1	1	53.6	9.8	104589	103051	98.5
General Motors	GM	1	8	5	1	1	52.4	-2.3	148979	-29202	-19.6
General Motors	GM	1	6	5	1	0	62.5	4.9	207349	-4763	-2.3
Halliburton	HAL	1	14	8	2	0	57.3	12.3	32870	4712	14.3
Halliburton	HAL	1	13	8	2	0	52.5	8.4	29402	2764	9.4
Halliburton	HAL	1	8	8	2	0	51.2	12.0	18279	3163	17.3
Halliburton	HAL	1	6	8	2	1	52.5	18.3	22504	3449	15.3
Honda	HMC	1	14	5	1	1	80.9	2.9	111104	6721	6.0
Honda	HMC	1	13	5	1	1	74.2	3.8	114998	8365	7.3
Honda	HMC	1	12	5	1	1	79.0	2.8	104906	6071	5.8
Honda	HMC	1	10	5	1	0	78.5	4.9	107985	9308	8.6
Honda	HMC	1	9	5	1	0	78.5	2.4	91854	4598	5.0
Honda	HMC	1	8	5	1	0	76.6	2.2	100970	2630	2.6
Honda	HMC	1	6	5	1	0	77.3	6.4	94310	7624	8.1
ING Direct	ING	1	10	12	2	0	70.3	*	72413	5940	8.2
ING Direct	ING	1	9	12	2	0	70.3	*	69117	-2186	-3.2
Johnson & Johnson	JNJ	1	14	9	1	1	77.7	12.8	74331	20563	27.7
Johnson & Johnson	JNJ	1	13	9	1	1	81.0	11.3	71312	15471	21.7
Johnson & Johnson	JNJ	1	12	9	1	1	80.5	9.7	67224	13775	20.5
Johnson & Johnson	JNJ	1	10	9	1	1	81.9	13.9	61587	16947	27.5
Johnson & Johnson	JNJ	1	9	9	1	0	81.9	14.1	61897	15755	25.5
Johnson & Johnson	JNJ	1	8	9	1	0	82.4	16.2	63747	16929	26.6
Johnson & Johnson	JNJ	1	6	9	1	0	80.4	17.4	53194	14587	27.4
JP Morgan Chase	JPM	1	14	12	2	1	61.1	*	102102	29792	29.2

JP Morgan Chase	JPM	1	13	12	2	1	58.2	*	105790	25914	24.5
JP Morgan Chase	JPM	1	12	12	2	0	54.8	*	107084	28917	27.0
JP Morgan Chase	JPM	1	10	12	2	1	55.7	*	115475	24859	21.5
JP Morgan Chase	JPM	1	9	12	2	1	55.7	*	115632	16067	13.9
JP Morgan Chase	JPM	1	8	12	2	1	60.0	*	101491	2773	2.7
Merck	MRK	1	6	9	1	1	69.0	*	22636	6342	28.0
P & G	PG	1	14	3	1	0	78.7	8.6	83062	14885	17.9
P & G	PG	1	13	3	1	0	78.0	8.7	84167	14843	17.6
P & G	PG	1	12	3	1	0	78.1	8.4	83680	12785	15.3
P & G	PG	1	10	3	1	0	79.1	10.2	78938	15157	19.2
P & G	PG	1	9	3	1	0	79.1	10.4	79029	15411	19.5
P & G	PG	1	8	3	1	0	78.7	*	83503	16078	19.3
P & G	PG	1	6	3	1	0	78.0	*	68222	12413	18.2
Pfizer	PFE	1	10	9	1	1	69.2	4.8	67791	9422	13.9
Pfizer	PFE	1	9	9	1	1	69.2	6.0	49934	10827	21.7
Royal Dutch Shell	RDS.A	1	10	8	1	0	65.0	6.9	368056	35344	9.6
Royal Dutch Shell	RDS.A	1	9	8	1	1	65.0	4.7	278188	21020	7.6
Royal Dutch Shell	RDS.A	1	6	8	1	1	64.2	15.7	318845	44628	14.0
Toyota	TM	1	13	5	1	1	75.6	4.6	249484	26796	10.7
Toyota	TM	1	12	5	1	1	73.5	2.8	234327	17366	7.4
Toyota	TM	1	10	5	1	1	78.2	1.5	229503	9404	4.1
Toyota	TM	1	9	5	1	1	78.2	0.8	202901	3607	1.8
Toyota	TM	1	8	5	1	0	78.8	0.5	208995	-5270	-2.5
Toyota	TM	1	6	5	1	0	78.1	7.5	202864	21957	10.8
Unilever	UL	1	8	3	1	0	77.1	19.1	25632	4465	17.4
Unilever	UL	1	6	3	1	0	71.7	19.6	16187	2424	15.0
Wells Fargo	WFC	1	14	13	2	0	68.2	*	88372	33915	38.4
Wells Fargo	WFC	1	13	13	2	0	60.5	*	88069	32269	36.6
Wells Fargo	WFC	1	12	13	2	0	59.5	*	91247	28471	31.2
Wells Fargo	WFC	1	10	13	2	1	64.9	*	93249	19001	20.4
Wells Fargo	WFC	1	9	13	2	1	64.9	*	98636	17998	18.2
Wells Fargo	WFC	1	8	13	2	1	66.9	*	51652	3257	6.3
Wells Fargo	WFC	1	6	13	2	0	69.8	*	47979	12745	26.6
Whole Foods	WFM	1	14	16	2	1	80.5	10.3	14194	946	6.7
Whole Foods	WFM	1	13	16	2	0	78.7	10.2	12917	894	6.9
Whole Foods	WFM	1	12	16	2	0	80.1	9.7	11699	752	6.4
Whole Foods	WFM	1	10	16	2	0	74.7	6.9	9006	412	4.6
Whole Foods	WFM	1	9	16	2	0	74.7	4.8	8032	251	3.1
Whole Foods	WFM	1	8	16	2	0	76.8	*	7954	207	2.6
Whole Foods	WFM	1	6	16	2	0	77.6	*	5607	340	6.1

3M	MMM	2	10	3	1	0	81.0	14.7	26662	5755	21.6
3M	MMM	2	9	3	1	0	81.0	12.7	23123	4632	20.0
3M	MMM	2	8	3	1	0	79.6	16.1	25269	5108	20.2
3M	MMM	2	6	3	1	0	80.1	20.2	22923	5624	24.5
AIG	AIG	2	14	10	2	0	58.3	1.7	63004	10501	16.7
AIG	AIG	2	13	10	2	0	48.6	2.1	67375	9368	13.9
AIG	AIG	2	12	10	2	0	46.2	1.0	65890	9322	14.1
AIG	AIG	2	10	10	2	1	39.2	1.8	76791	17936	23.4
AIG	AIG	2	9	10	2	1	39.2	0.0	97260	-13648	-14.0
AIG	AIG	2	8	10	2	1	43.8	-8.2	8062	**	**
American Airlines	AAL	2	13	11	2	1	53.9	*	26712	-2180	-8.2
Apple	AAPL	2	14	1	1	0	81.8	18.1	182795	53483	29.3
Apple	AAPL	2	13	1	1	0	82.5	19.4	170910	50155	29.3
Apple	AAPL	2	12	1	1	0	85.6	28.5	156508	55763	35.6
Apple	AAPL	2	10	1	1	1	79.3	22.8	65225	18540	28.4
Apple	AAPL	2	9	1	1	0	79.3	18.9	42905	12066	28.1
Apple	AAPL	2	8	1	1	0	77.8	14.9	32479	6895	21.2
Apple	AAPL	2	6	1	1	0	74.6	13.8	19315	2818	14.6
AT&T	T	2	14	6	2	0	70.7	3.1	132447	9960	7.5
AT&T	T	2	13	6	2	0	66.6	7.5	128752	27777	21.6
AT&T	T	2	12	6	2	0	65.1	3.6	127434	10439	8.2
AT&T	T	2	10	6	2	0	68.3	8.8	124280	18238	14.7
AT&T	T	2	9	6	2	1	68.3	5.7	123018	18999	15.4
AT&T	T	2	8	6	2	0	70.5	*	124028	20164	16.3
AT&T	T	2	6	6	2	0	66.6	*	63055	10881	17.3
Boeing	BA	2	12	7	1	0	74.0	5.1	81698	5910	7.2
Boeing	BA	2	8	7	1	0	73.5	*	60909	3995	6.6
Boeing	BA	2	6	7	1	1	73.5	*	61530	3194	5.2
Delta Airlines	DAL	2	10	11	2	0	59.6	4.1	31755	608	1.9
Delta Airlines	DAL	2	9	11	2	0	59.6	0.1	28063	-1581	-5.6
EMC	EMC	2	8	1	1	0	73.9	7.5	14876	1703	11.4
Facebook	FB	2	14	1	2	0	69.6	10.2	12466	4910	39.4
Facebook	FB	2	13	1	2	1	65.6	9.3	7872	2754	35.0
Goldman Sachs	GS	2	14	12	2	1	58.1	1.4	39796	12357	31.1
Goldman Sachs	GS	2	13	12	2	1	49.4	1.4	40663	11737	28.9
Goldman Sachs	GS	2	12	12	2	1	47.6	1.4	41170	11207	27.2
Goldman Sachs	GS	2	10	12	2	1	51.4	1.5	45967	12892	28.0
Goldman Sachs	GS	2	9	12	2	1	51.4	2.1	51673	19829	38.4
Google	GOOGL	2	14	1	2	0	78.4	12.0	66001	17259	26.1
Google	GOOGL	2	13	1	2	0	81.3	12.7	59825	14496	24.2
Google	GOOGL	2	12	1	2	0	82.8	13.0	50175	13386	26.7
Google	GOOGL	2	10	1	2	0	81.5	17.3	29321	10796	36.8
Google	GOOGL	2	9	1	2	0	81.5	18.0	23650	8381	35.4
Google	GOOGL	2	8	1	2	0	81.9	*	21795	5854	26.9

Google	GOOGL	2	6	1	2	0	79.5	21.4	10605	4011	37.8
Home Depot	HD	2	14	4	2	1	77.5	17.1	83176	9976	12.0
Home Depot	HD	2	13	4	2	0	76.3	14.3	78812	8467	10.7
Home Depot	HD	2	12	4	2	0	78.1	12.1	74754	7221	9.7
Home Depot	HD	2	10	4	2	1	77.0	9.1	67997	5273	7.8
Home Depot	HD	2	9	4	2	0	77.0	7.6	65955	3982	6.0
Home Depot	HD	2	8	4	2	0	74.8	6.3	71288	3590	5.0
Home Depot	HD	2	6	4	2	0	75.3	12.5	90837	9308	10.2
HP	HPQ	2	14	1	1	0	74.1	5.3	111454	6557	5.9
HP	HPQ	2	13	1	1	0	70.0	5.3	112298	6510	5.8
HP	HPQ	2	12	1	1	1	73.4	-9.9	120357	-11933	-9.9
HP	HPQ	2	10	1	1	0	76.4	7.6	126033	11083	8.8
HP	HPQ	2	9	1	1	0	76.4	7.1	114552	9415	8.2
HP	HPQ	2	8	1	1	1	75.0	*	118364	10473	8.8
HP	HPQ	2	6	1	1	1	69.1	*	91658	7191	7.8
IBM	IBM	2	14	1	2	0	74.7	10.5	92793	19979	21.5
IBM	IBM	2	13	1	2	0	72.2	14.1	99751	19517	19.6
IBM	IBM	2	12	1	2	0	75.1	14.7	104507	21891	20.9
IBM	IBM	2	10	1	2	0	75.6	14.0	99871	19714	19.7
IBM	IBM	2	9	1	2	1	75.6	13.0	95758	18133	18.9
IBM	IBM	2	8	1	2	0	73.9	*	103360	16715	16.2
IBM	IBM	2	6	1	2	0	73.6	*	91424	13317	14.6
Intel	INTC	2	10	1	1	0	80.1	19.9	43623	16045	36.8
Intel	INTC	2	9	1	1	1	80.1	8.5	35127	5704	16.2
Intel	INTC	2	6	1	1	0	76.4	10.5	35382	7068	20.0
Lowe's	LOW	2	14	4	2	0	76.6	9.4	56223	4276	7.6
Lowe's	LOW	2	13	4	2	0	75.7	7.9	53417	3673	6.9
Lowe's	LOW	2	12	4	2	0	75.4	6.7	50521	3137	6.2
Lowe's	LOW	2	10	4	2	0	78.6	6.7	48815	3228	6.6
Lowe's	LOW	2	9	4	2	0	78.6	6.1	47220	2825	6.0
Lowe's	LOW	2	8	4	2	0	76.8	7.6	48230	3506	7.3
Lowe's	LOW	2	6	4	2	0	75.9	12.4	46927	4998	10.7
Microsoft	MSFT	2	14	1	1	0	80.1	14.3	86451	27820	32.2
Microsoft	MSFT	2	13	1	1	0	76.5	16.8	77849	27052	34.7
Microsoft	MSFT	2	12	1	1	0	79.9	15.0	73723	22267	30.2
Microsoft	MSFT	2	10	1	1	0	79.8	23.0	62484	25013	40.0
Microsoft	MSFT	2	9	1	1	0	79.8	19.4	58437	19821	33.9
Microsoft	MSFT	2	8	1	1	0	79.8	26.1	60420	23814	39.4
Microsoft	MSFT	2	6	1	1	0	80.7	*	44282	18262	41.2
Southwest Airline	LUV	2	14	11	2	0	76.4	6.1	18605	1816	9.8
Southwest Airline	LUV	2	12	11	2	0	74.6	2.8	17088	685	4.0
Southwest Airline	LUV	2	10	11	2	1	77.7	3.8	12104	745	6.2
Southwest Airline	LUV	2	9	11	2	0	77.7	1.5	10350	164	1.6

Southwest Airline	LUV	2	8	11	2	1	75.5	1.7	11023	278	2.5
Southwest Airline	LUV	2	6	11	2	0	72.9	4.2	9086	790	8.7
Sprint	S	2	14	6	2	0	62.3	-1.5	34532	-3919	-11.3
Sprint	S	2	13	6	2	0	63.3	-1.4	35493	-1372	-3.9
Sprint	S	2	12	6	2	0	65.9	-5.2	35345	-4172	-11.8
Sprint	S	2	10	6	2	0	62.4	-3.7	32563	-3229	-9.9
Sprint	S	2	9	6	2	0	62.4	-1.7	32260	-3494	-10.8
Sprint	S	2	8	6	2	0	63.6	*	35635	-4060	-11.4
Sprint	S	2	6	6	2	0	62.9	*	41028	1483	3.6
T-Mobile	TMUS	2	14	6	2	0	68.0	2.1	29564	413	1.4
T-Mobile	TMUS	2	13	6	2	0	65.6	*	24420	51	0.2
Toyota	TM	2	14	5	1	1	76.8	4.6	227030	26687	11.8
Verizon	VZ	2	14	6	2	0	69.9	5.3	127079	15270	12.0
Verizon	VZ	2	13	6	2	0	69.4	5.5	120550	29277	24.3
Verizon	VZ	2	12	6	2	0	71.2	1.7	115846	9897	8.5
Verizon	VZ	2	10	6	2	0	69.1	2.4	106800	12684	11.9
Verizon	VZ	2	9	6	2	0	69.1	3.3	107808	11568	10.7
Verizon	VZ	2	8	6	2	0	73.4	23.5	97354	15914	16.3
Verizon	VZ	2	6	6	2	0	69.4	20.6	88144	12192	13.8
Altria	MO	3	6	14	1	1	62.6	15.6	70324	16373	23.3
Amazon	AMZN	3	14	4	2	0	83.9	-0.1	88988	-74	-0.1
Amazon	AMZN	3	13	4	2	0	82.6	1.0	74452	435	0.6
Amazon	AMZN	3	12	4	2	0	82.0	*	61093	389	0.6
Amazon	AMZN	3	10	4	2	0	79.6	7.2	34204	1504	4.4
Amazon	AMZN	3	9	4	2	0	79.6	8.4	24509	1155	4.7
Amazon	AMZN	3	8	4	2	0	80.1	9.4	19166	892	4.7
Amazon	AMZN	3	6	4	2	0	77.7	5.7	10711	377	3.5
American Express	AXP	3	10	12	2	1	69.6	3.6	30242	5964	19.7
American Express	AXP	3	9	12	2	0	69.6	2.2	26519	2841	10.7
American Express	AXP	3	8	12	2	0	70.0	*	31920	3581	11.2
American Express	AXP	3	6	12	2	0	71.5	3.1	28710	5328	18.6
Best Buy	BBY	3	14	4	2	0	71.1	9.0	40339	1387	3.4
Best Buy	BBY	3	13	4	2	0	65.9	3.9	42410	1087	2.6
Best Buy	BBY	3	12	4	2	1	72.7	-2.0	45085	-190	-0.4
Best Buy	BBY	3	10	4	2	0	72.2	7.4	50272	2080	4.1
Best Buy	BBY	3	9	4	2	0	72.2	8.1	49694	2196	4.4
Best Buy	BBY	3	8	4	2	0	70.7	11.0	45015	1707	3.8
Best Buy	BBY	3	6	4	2	0	71.9	11.3	35934	2130	5.9
Coca Cola	KO	3	14	16	1	0	82.7	8.2	45998	9325	20.3
Coca Cola	KO	3	13	16	1	0	80.4	10.1	46854	11477	24.5
Coca Cola	KO	3	12	16	1	0	82.0	11.2	48017	11809	24.6

Coca Cola	KO	3	9	16	1	0	79.8	15.9	30990	8946	28.9
Coca Cola	KO	3	8	16	1	0	79.8	20.0	35119	14243	40.6
Coca Cola	KO	3	6	16	1	0	79.5	18.9	24088	6578	27.3
Comcast	CMCSA	3	14	6	2	0	62.6	7.1	68775	12465	18.1
Comcast	CMCSA	3	13	6	2	0	61.0	5.8	64657	11115	17.2
Comcast	CMCSA	3	12	6	2	0	59.1	15.4	62570	11609	18.6
Comcast	CMCSA	3	10	6	2	0	60.4	4.4	37937	6104	16.1
Comcast	CMCSA	3	9	6	2	0	60.4	4.7	35756	5106	14.3
Comcast	CMCSA	3	8	6	2	0	60.5	3.9	34256	4058	11.8
Comcast	CMCSA	3	6	6	2	0	61.5	3.8	24966	3594	14.4
Costco	COST	3	14	4	2	0	80.8	6.7	112640	3197	2.8
Costco	COST	3	13	4	2	0	78.0	7.3	105156	3051	2.9
Costco	COST	3	12	4	2	0	76.7	6.6	99137	2767	2.8
Costco	COST	3	10	4	2	0	77.6	6.0	77946	2054	2.6
Costco	COST	3	9	4	2	0	77.6	5.8	71449	1714	2.4
Costco	COST	3	8	4	2	0	75.4	7.2	72483	1999	2.8
Costco	COST	3	6	4	2	0	75.1	7.0	60151	1751	2.9
Dish Network	DISH	3	14	6	2	0	58.1	7.7	14643	1206	8.2
FEDEX	FDX	3	10	17	2	0	77.5	5.9	39304	2265	5.8
FEDEX	FDX	3	9	17	2	0	77.5	5.2	34734	1894	5.5
FEDEX	FDX	3	6	17	2	0	76.7	*	35214	3215	9.1
General Mills	GIS	3	12	16	1	0	77.4	14.0	17774	2634	14.8
General Mills	GIS	3	10	16	1	0	79.5	11.3	14880	2525	17.0
General Mills	GIS	3	9	16	1	0	79.5	10.0	14797	2306	15.6
General Mills	GIS	3	8	16	1	0	79.7	9.8	14691	2025	13.8
General Mills	GIS	3	6	16	1	0	79.4	14.2	12442	1704	13.7
JCPenney	JCP	3	14	4	2	0	63.6	-3.3	12257	-748	-6.1
JCPenney	JCP	3	13	4	2	0	69.1	-9.6	11859	-1886	-15.9
JCPenney	JCP	3	12	4	2	0	71.2	-7.2	12985	-1536	-11.8
JCPenney	JCP	3	8	4	2	0	70.6	*	18486	910	4.9
JCPenney	JCP	3	6	4	2	0	71.5	*	19903	1792	9.0
Kohls	KSS	3	14	4	2	0	77.2	7.5	19023	1349	7.1
Kohls	KSS	3	13	4	2	0	78.0	7.8	19031	1404	7.4
Kohls	KSS	3	12	4	2	0	78.0	8.5	19279	1561	8.1
Kraft	KHC	3	14	16	1	0	78.8	3.3	10922	803	7.4
Kraft	KHC	3	12	16	1	0	81.6	10.2	11529	1344	11.7
Kraft	KHC	3	10	16	1	0	79.3	11.8	10707	1374	12.8
Kraft	KHC	3	9	16	1	0	79.3	10.9	10495	1290	12.3
Kraft	KHC	3	8	16	1	0	80.5	12.1	10148	1296	12.8
Macy's	M	3	14	4	2	0	75.9	8.3	28105	2390	8.5
Macy's	M	3	13	4	2	0	74.4	8.2	27931	2290	8.2
Macy's	M	3	12	4	2	0	73.6	7.5	27686	2102	7.6
McDonalds	MCD	3	14	16	1	1	67.0	14.5	27441	7372	26.9
McDonalds	MCD	3	13	16	1	1	71.4	16.5	28106	8205	29.2

McDonalds	MCD	3	12	16	1	0	71.8	17.0	27567	8079	29.3
McDonalds	MCD	3	10	16	1	0	73.5	17.0	24075	7000	29.1
McDonalds	MCD	3	9	16	1	0	73.5	16.7	22745	6487	28.5
McDonalds	MCD	3	8	16	1	0	71.8	*	23522	6158	26.2
McDonalds	MCD	3	6	16	1	0	66.4	*	21586	4166	19.3
Monsanto	MON	3	14	7	1	0	57.3	13.8	15855	3827	24.1
Monsanto	MON	3	13	7	1	0	61.7	12.8	14861	3429	23.1
Monsanto	MON	3	10	7	1	0	70.3	6.9	10483	1490	14.2
Monsanto	MON	3	9	7	1	0	70.3	12.4	11724	2967	25.3
Netflix	NFLX	3	12		2	0	68.1	0.8	3609	30	0.8
News Corp	NWSA	3	12		2	1	57.1	*	8654	-2377	-27.5
Nike	NKE	3	14	3	1	1	77.8	16.4	30601	4205	13.7
Nike	NKE	3	13	3	1	1	77.2	15.0	27799	3544	12.7
Nike	NKE	3	12	3	1	1	76.0	15.1	25313	3272	12.9
Nike	NKE	3	10	3	1	0	74.1	14.7	20862	2844	13.6
Nike	NKE	3	9	3	1	0	74.1	14.0	19014	2517	13.2
Nike	NKE	3	8	3	1	0	73.5	11.8	19176	1957	10.2
Nike	NKE	3	6	3	1	0	73.7	14.8	16325	2200	13.5
Nordstrom	JWN	3	14	4	2	0	75.3	9.1	13506	1185	8.8
Nordstrom	JWN	3	6	4	2	0	72.0	14.7	8794	1106	12.6
Pepsico	PEP	3	14	16	1	0	75.3	9.7	66683	8757	13.1
Pepsico	PEP	3	13	16	1	0	74.5	9.8	66415	8891	13.4
Pepsico	PEP	3	12	16	1	1	77.8	9.3	65492	8304	12.7
Pepsico	PEP	3	10	16	1	0	79.5	12.7	57838	8232	14.2
Pepsico	PEP	3	9	16	1	0	79.5	16.5	43232	8079	18.7
Pepsico	PEP	3	8	16	1	0	76.9	15.2	43251	7021	16.2
Pepsico	PEP	3	6	16	1	0	73.9	18.9	35137	6989	19.9
Sears	SHLD	3	14	4	2	0	60.3	-8.7	31198	-1685	-5.4
Sears	SHLD	3	13	4	2	0	63.5	-5.9	36188	-972	-2.7
Sears	SHLD	3	12	4	2	0	64.3	1.7	44043	420	1.0
Sears	SHLD	3	8	4	2	0	65.0	2.0	46770	184	0.4
Sears	SHLD	3	6	4	2	0	67.6	6.2	53012	2464	4.6
Sony	SNE	3	14	1	1	1	79.8	*	68488	331	0.5
Sony	SNE	3	13	1	1	0	78.3	*	75425	250	0.3
Sony	SNE	3	12	1	1	1	79.2	0.4	71929	2609	3.6
Sony	SNE	3	10	1	1	0	78.7	*	86772	2477	2.9
Sony	SNE	3	9	1	1	0	78.7	-0.2	77238	288	0.4
Sony	SNE	3	8	1	1	0	81.7	1.5	78877	-1785	-2.3
Sony	SNE	3	6	1	1	1	78.6	1.7	70565	1537	2.2
Starbucks	SBUX	3	14	16	1	0	75.1	19.0	16448	3160	19.2
Starbucks	SBUX	3	13	16	1	0	74.8	0.5	14892	-230	-1.5
Starbucks	SBUX	3	12	16	1	0	73.0	18.1	13300	2059	15.5
Starbucks	SBUX	3	10	16	1	0	70.7	16.2	10707	1437	13.4

Starbucks	SBUX	3	9	16	1	0	70.7	7.7	9775	559	5.7
Starbucks	SBUX	3	6	16	1	0	73.3	14.7	7787	906	11.6
Target	TGT	3	14	4	2	1	68.9	-2.9	72618	3653	5.0
Target	TGT	3	13	4	2	1	74.8	5.2	72596	3103	4.3
Target	TGT	3	12	4	2	0	74.3	7.4	73301	4609	6.3
Target	TGT	3	10	4	2	0	72.4	7.7	67390	4495	6.7
Target	TGT	3	9	4	2	0	72.4	6.8	65357	3872	5.9
Target	TGT	3	8	4	2	0	74.8	6.3	64948	3536	5.4
Target	TGT	3	6	4	2	0	72.6	8.8	59490	4497	7.6
Time Warner	TWX	3	14	6	2	0	65.8	7.5	27359	4679	17.1
Time Warner	TWX	3	13	6	2	0	62.8	6.7	29795	5303	17.8
Time Warner	TWX	3	12	6	2	0	63.4	5.8	28729	4542	15.8
Time Warner	TWX	3	10	6	2	0	61.8	5.2	26888	3919	14.6
Time Warner	TWX	3	9	6	2	0	61.8	3.7	25785	3283	12.7
Time Warner	TWX	3	8	6	2	0	64.3	-6.2	46984	-18263	-38.9
Time Warner	TWX	3	6	6	2	1	65.6	9.6	44224	6826	15.4
UPS	UPS	3	12	17	2	0	79.8	3.1	54127	974	1.8
UPS	UPS	3	10	17	2	0	78.3	11.4	49545	5523	11.1
UPS	UPS	3	9	17	2	0	78.3	7.7	45297	3366	7.4
UPS	UPS	3	6	17	2	0	79.1	12.8	47547	6510	13.7
Wal Mart	WMT	3	14	4	2	1	66.5	8.8	483521	24799	5.1
Wal Mart	WMT	3	13	4	2	1	66.0	9.4	474259	24656	5.2
Wal Mart	WMT	3	12	4	2	1	69.3	9.6	467231	25737	5.5
Wal Mart	WMT	3	10	4	2	0	69.6	10.4	420016	23538	5.6
Wal Mart	WMT	3	9	4	2	0	69.6	9.6	406103	22066	5.4
Wal Mart	WMT	3	8	4	2	0	69.6	10.5	402298	20898	5.2
Wal Mart	WMT	3	6	4	2	0	68.3	10.2	345977	18968	5.5
Walgreens	WBA	3	12		2	0	72.1	7.1	71633	3376	4.7
Walt Disney	DIS	3	14	2	1	0	81.5	9.4	48813	12246	25.1
Walt Disney	DIS	3	13	2	1	0	82.1	8.2	45041	9620	21.4
Walt Disney	DIS	3	12	2	1	0	81.3	8.2	42278	9260	21.9
Walt Disney	DIS	3	10	2	1	0	79.1	6.5	38063	6627	17.4
Walt Disney	DIS	3	9	2	1	0	79.1	5.9	36149	5658	15.7
Walt Disney	DIS	3	8	2	1	0	78.4	10.2	37843	7402	19.6
Walt Disney	DIS	3	6	2	1	0	77.5	9.2	34285	5447	15.9
YUM Brands	YUM	3	13	16	1	0	71.4	13.9	13084	1551	11.9

* = data is not available ** = excluded outliers