WHEN PERCEPTION ISN'T REALITY: AN EXAMINATION OF CONSUMER PERCEPTIONS OF INNOVATION

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Innovation research has received increasing attention as firms attempt to gain an edge over their competitors. Past research has focused on innovation from the organization's perspective and has yet to consider the impact of consumer perceptions of innovation on purchase intentions. Research suggests firms do not possess an adequate understanding of how consumers interpret firm innovativeness, or the potential benefits associated with being perceived as innovative. This research aims to address the impact of consumer perceptions of innovation on behavioral intentions. A scenario-based study is conducted and the results support the premise that consumer perceptions of innovation lead to increased purchase intentions via the mediating effects of perceived quality and anticipated satisfaction. Implications for managers are presented, as well as areas for future research and study limitations.

INTRODUCTION

Innovation research in the marketing literature has received increasing attention as organizations strive to offer innovative, and thus more valuable, products in an attempt to differentiate themselves from the competition and reap the associated financial rewards (Narver & Slater, 1990; Slater & Narver, 1995). As such, firms are increasing the amount of money spent on research and development in an attempt to create innovative products (Kent, 2013). Interestingly, the popular press is replete with firm rankings on innovation, determined by industry insiders (Forbes, 2014), yet, these rankings do not incorporate the consumer's perspective of firm innovativeness. For example, the Boston Consulting Group (BCG) annually ranks the "World's Most Innovative Companies." Executive opinions comprise the majority of the weight for the rankings, while financial measures including revenue, margin growth, and stock returns represent a small portion. Interestingly, consumer perceptions are not taken directly into account when calculating innovation rankings, yet consumer perceptions are a key element in predicting firm performance (Rust, Lemon, & Zeithaml, 2004).

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While past research has focused on innovation from the organization's perspective (see Flight & Palmer, 2012; Montoya-Weiss & Calantone, 1994; Yadav, Prabhu & Chandy, 2007), the impact of consumer perceptions of firm innovativeness on behavioral intentions has yet to be examined. Consider that for years U.S. automobile manufacturers failed to invest in designing smaller, fuel-efficient vehicles. Conversely, foreign automakers made large investments in innovative designs, resulting in vehicles that were, and still are, in high demand given the current environmental concerns and fluctuating fuel prices. However, in recent years the difference between foreign and domestic automobile innovation, efficiencies, and features are quite minute. Global innovation rankings from BCG suggest a narrowing of foreign and domestic innovation equality as Ford ranks 8th, Honda ranks 18th and BMW ranks 9th (Wagner, Foo, Zablit, & Taylor, 2013), yet public perception is much more favorable toward foreign automobile manufacturers in terms of innovative design and functionality (Lutz, 2012). This begs the question of how consumer perceptions of innovation, regardless of congruency with industry standards and rankings, impact behavior.

It has been suggested that firms know far too little about how innovation impacts customers' perceptions of value (Flint, 2006). While firms innovate in an attempt to create goods and

services not currently available in the market in an effort to meet consumer needs, (van Riel, 2003) surprisingly, consumers are not the focal point of innovation research. However, utilizing customer data to understand perceptions of value and satisfaction are thought to be key to the success for most organizations (Garver & Williams, 2009). Given that consumers will ultimately decide the success or failure of an innovation, one would expect the focus to be on consumers. Current innovation measures assess industry or employee perceptions, yet fail to account for consumer perceptions of firm innovativeness. Understanding consumer perceptions of innovation and how those perceptions influence behavior is essential.

Thus, the objective of this research is to investigate the role of perceived innovation from the consumers' perspective. Additionally, the quality, satisfaction and purchase intention relationship, while it has been examined previously is alternative settings, is able to be examined within this unique context. To accomplish this objective a conceptual framework is laid out, followed by a study aimed at understanding consumer perceptions of innovation on purchase intentions (see Figure 1). A discussion of the results and implications, as well as the limitations and future research opportunities, is also presented.

CONCEPTUAL DEVELOPMENT

Previous research suggests that innovative firms offering meaningful and creative products, will meet the ever changing needs of consumers, and provide the firm with a competitive advantage, due to its ability to differentiate its product from the competition (Deshpande, Farley & Webster, 1993). Highly innovative firms effectively utilize new market knowledge through organizational learning, and attempt to satisfy consumer demand for new products, and innovate through new processes, services, or physical goods (Marinova, 2004; Flint, 2006). Given the well-established relationship between product quality and value, as firms innovate and increase value, consumers may perceive products from highly innovative firms to be higher quality due to the importance of innovation in forming consumer perceptions.

Additionally, it is suggested that a positive relationship between the firm and consumer positively impact the consumer's level of satisfaction (Garbarino & Johnson, 1999). Consumers respond favorably to firms' efforts to invest resources into customer relationships (Wulf, Schroder, & Iacobucci, 2001). As such, product innovations can be viewed as a tangible cue of an investment on behalf of the firm to benefit the consumer. Product innovations have been found to enhance the relationship quality between the firm and consumer and further illustrates its commitment to a market orientation (Hurly & Hult, 1998; Tsai & Ghosal, 1998). Furthermore, customer-oriented firms seek to enhance the relationship with customers by consistently meeting their needs and wants with new product offerings (Zhou, Yim, & Tse, 2005). Consequently, a focus on creating innovative products and processes represents a strategy to strengthen the aforementioned relationship between consumers and the firm. Consumers of highly innovative firms may have a higher level of anticipated satisfaction due to interpreting innovation activities as a relationship investment on the part of the firm.

Past research has hypothesized a direct relationship between firm innovativeness and performance (Deshpande & Farley, 2004). Innovativeness is often examined at the firm level by considering time to market, technological competencies within the firm, or the orientation of the firm without considering the impact those factors have on consumers (Capon, Farley, Hulbert, & Lehmann, 1992; Hult, Hurley, & Knight, 2004). Currently, the belief is that innovation directly impacts firm performance, however there could be a number of factors that mediate the relationship. However, the impact of innovativeness on firm performance, while still failing to examine consumer perceptions, has shown to be more impactful than having a market orientation in some instances (Deshpande & Farley, 2004).

While the impact of innovation on firm performance has been examined from a variety of angles, research has yet to focus on those that ultimately drive firm performance – the customer. Following Bagozzi's (1992) cognitive appraisal-emotional response-behavioral intentions framework, consumers

will have an emotional or cognitive response to their perception of firm innovativeness and this response precedes their behavioral intentions. Given that consumers make purchase decisions on evaluations of quality and anticipated satisfaction, it is reasonable to assume the relationship between perceived innovation will not directly lead to purchase intentions, but rather perceived quality and anticipated satisfaction will need to be considered as well. Therefore, we hypothesize:

H_1: Perceived innovativeness positively affects a) perceived product quality and b) anticipated satisfaction.

Perceived quality, anticipated satisfaction, and purchase intentions

Technical innovations refer to the adoption of new technological advancements in producing products (i.e., goods or services) (Damanpour, 1987). For physical goods, the focus of most innovation is on upgrading the technical quality of the product, while innovation in a service context is concerned with enhancing the consumers overall experience (Berry, Shankar, Parish, Cadwallader, & Dotzel, 2006). To this end, organizational innovativeness has been found to influence consumer perceptions of product quality as well as loyalty intentions (Kirca, Jayachandran & Bearden, 2005). The goal of experience-focused innovations is to appeal to the consumer's emotional or physical comfort by upgrading or enhancing the environment in which the service occurs (Berry et al., 2006).

Firms are constantly examining methods by which they can enhance the perceived quality of their products due to the positive impact for both the firm and the consumer. Perceived quality is referred to as the consumer's evaluation of the performance of a particular good or service (Cronin & Taylor, 1992). Consumer perceptions of product quality have been found to impact satisfaction and purchase intentions toward a firm's offerings (Zeithaml, Berry, & Parasuraman, 1996; Cronin, Brady, & Hult, 2000). Furthermore, perceived quality is considered the chief component of value creation for the consumer on behalf of the firm (Hallowell, 1996).

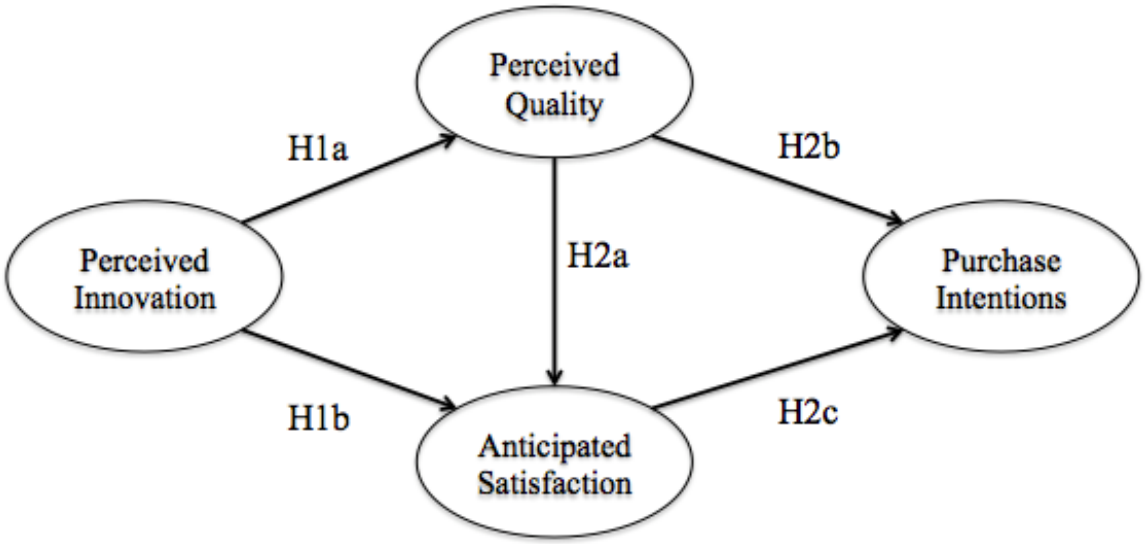
Several researchers have debated whether customer satisfaction and perceived quality are distinct constructs (Dabholkar, 1993; Iacobucci, Grayson, & Ostrom, 1994; Dabholkar, Shepherd, & Thorpe, 2000). Although highly correlated, quality perceptions and satisfaction are distinct constructs since perceived quality represents cognitive evaluations of a product while satisfaction has been conceptualized as an affective response (Parasuraman, Zeithaml, & Berry, 1988; Bitner, 1990; Cronin & Taylor, 1992; 1994). A satisfied consumer benefits from positive feelings associated with the use of a specific good or service (Oliver, 1996). Thus, perceptions of quality have been found to precede feelings of satisfaction towards a product (Oliver, 1993; Dabholkar et al., 2000). As such, satisfied customers have been shown to be more likely to remain loyal, repurchase products, and recommend the product to others (Cronin et al., 2000).

Perceived quality is defined as "the consumers' judgment about a product's overall excellence or superiority" (Zeithaml, 1988, p. 3). These perceptions do not require the consumer to have experience with the service provider (Taylor & Baker, 1994). Previous research suggests there is a strong link between service quality perceptions and the positive impact on purchase intentions (Zeithaml et al., 1996; Sirohi, McLaughlin, & Wittink, 1998). Similarly, the relationship between satisfaction and purchase intentions has been established, as anticipated levels of satisfaction impact purchase intentions (Homburg, Koschate, & Hoyer, 2005).

In addition, service quality has been shown to be an antecedent to satisfaction (Spreng & Mackoy, 1996). Perceptions of service quality have been shown to predict the consumer's satisfaction with the experience (Otto & Ritchie, 1995). Consumers expecting quality from an innovative provider are likely to have related levels of anticipated satisfaction or have a difficult time distinguishing between the two (Taylor & Cronin, 1994). This model herein depicts the theorized relationship between perceived quality and anticipated satisfaction. We propose the following hypotheses:

H_2: Perceived product quality positively affects a) anticipated satisfaction, b) purchase intentions, and

FIGURE 1:



c) anticipated satisfaction positively affects purchase intentions.

METHODOLOGY

Sample & Data Collection

Data were collected from 342 subjects who completed an online survey. To ensure the independence of the observations the survey was designed to allow for one response per internet protocol (IP) address. Respondents ranged in age from 19 to 74, with a mean age of approximately 39 years, and the sample was comprised of 44 percent male and 56 percent female respondents. Preliminary data analysis resulted in a reduced sample. In total, seven questionnaires were removed from the study. Questionnaires were eliminated from the study for failing to properly answer a quality check question (n=5) and due to incomplete data (n=2), leaving 335 participants. The survey items for each construct were randomized for each respondent to help eliminate order effects.

Subjects were asked to read scenario about a fictitious movie theater with innovative offerings, such as temperature controlled, reclining chairs that adjust based on the occupants size. The offerings in the scenario were judged to be innovative by graduate students. Subjects answered questions pertaining to the firm's innovativeness, perceptions of quality, anticipated satisfaction and purchase intentions. Perceived innovativeness was measured using an adapted scale from Moorman (1995) and Fang's (2008) new product innovation scales. Our primary dependent variable, purchase intentions, was measured using a four-item scale from Oliver and Swan (1989). Taylor and Bearden's (2002) measure of perceived quality and Oliver's (1980) scale of anticipated satisfaction were used. The items were scored on a seven-point scale (see Appendix A).

Results

Measurement Model. The psychometric properties of the items were evaluated through a comprehensive confirmatory factor analysis. All items were simultaneously tested in one model and were restricted to load on their assigned factors. The results of the confirmatory factor analysis are presented in Table 1 along with descriptive and diagnostic statistics. Due to the sensitivity of chi-square to sample size, the model fit was evaluated using the root mean square error of approximation (RMSEA), comparative fit index (CFI), and the

Tucker-Lewis index (TLI) fit indices due to their reported stability and insensitivity to sample size (Hu & Bentler, 1999; Gerbing & Anderson, 1992). The measurement model fit the data well (χ^2 = 230.17, df = 84, n = 334, RMSEA = .072, CFI = .98, TLI = .97). Construct reliability estimates were assessed according to Fornell and Larcker (1981). All scales were reliable with construct reliability estimates ranging from .91 to .98, as reported in Table 1. Convergent validity was evaluated through an examination of the average variances extracted. All of the average variances extracted were greater than .50, indicating convergent validity (Fornell & Larcker, 1981). Discriminant validity was tested in accordance with Fornell and Larcker's (1981) criteria, whereby the average variance extracted for the construct is compared with the shared variance between the construct and other variables in the model. The results indicate discriminant validity for each of the squared correlations, since the average variance extracted by each of the scales was greater than the shared variance between the constructs.

Structural Model. A structural model was estimated to assess model parameters. The hypothesized structural model yielded a good fit (χ^2 = 230.34, df = 85, RMSEA = .072, CFI = .98, TLI = .97). As illustrated in Table 2, all five of the predicted paths were significant (p<.01). The paths from perceived innovation to perceived quality and anticipated satisfaction were both significant, thus providing evidence of support for H_{1a} and H_{1b}. In addition, the path from perceived quality to anticipated satisfaction was significant which provides evidence of support for H_{2a}. The paths from perceived quality and anticipated satisfaction to purchase intentions were both significant, which provide evidence of support for H_{2b} and H_{2c}.

Mediation Effects. To examine the mediating effects of perceived quality and anticipated satisfaction on perceived innovation to purchase intentions, we estimated models consistent with Baron and Kenny (1986) and Holmbeck's (1997) guidelines. Four conditions for mediation were examined. The first condition is satisfied if the independent variable (perceived innovation) affects the mediators (perceived quality and anticipated satisfaction). The second condition is satisfied if the mediators affect the dependent variable (purchase intentions). Both of these conditions were met by the paths estimated in the hypothesized model (see Table 2). That is, H_{1a}, H_{1b}, H_{2b} and H_{2c} were all supported in the model. The third condition is satisfied if the independent variable (perceived innovation) affects the dependent variable (purchase intentions). Therefore, we estimated a model with only direct paths from perceived innovation to purchase intentions- a direct model (χ^2 = 67.73, df = 19, CFI = .98, TLI = .98, and RMSEA = .088). The direct path was significant (p < .001) with a standardized coefficient of .51, thus satisfying the third mediating condition.

Lastly, the fourth condition is satisfied if the direct path from the independent variable (perceived innovation) to the dependent variable (purchase intention) is either non-significant, indicating full mediation, or reduced, indicating partial mediation when the paths from the independent variable to the mediator are included in the model. The fit of

TABLE 1:
Summary Measurement Results

Variable	CR	INNOV	QUAL	SAT	INT
Perceived Innovation	.91	**.72**	.42	.36	.26
Perceived Quality	.95	.65	**.83**	.61	.50
Anticipated Satisfaction	.94	.60	.78	**.83**	.64
Purchase Intentions	.98	.51	.71	.80	**.91**

Notes: n = 334; χ^2 = 230.17/84 degrees of freedom; RMSEA = .07; CFI = .98; TLI = .97; Correlations are shown below the diagonal; shared variances are depicted above the diagonal; the AVE is depicted in **boldface** on the diagonal.

TABLE 2:
Structural Model Results

Fit/Paths	**Research Model**
χ^2/ df	230.34/85
CFI	.98
TLI	.97
RMSEA	.07
H_{1a}: Perceived Innovation → Perceived Quality	.65***
H_{1b}: Perceived Innovation → Anticipated Satisfaction	.15**
H_{2a}: Perceived Quality → Anticipated Satisfaction	.68***
H_{2b}: Perceived Quality → Purchase Intentions	.23***
H_{2c}: Anticipated Satisfaction → Purchase Intentions	.62***
Mediators	**Mediated Paths**
Perceived Quality	.506*** → .075
Anticipated Satisfaction	.506*** → .048
The standardized path coefficients are provided and the significance is reflected by ** $p < .01$, *** $p < .001$	

the full model (χ^2 = 170.84, df = 51, CFI = .98, TLI = .96, and RMSEA = .084) was slightly better than the hypothesized model (χ^2 diff = 1.67, df = 1), with the direct path becoming insignificant, indicating that the perceived quality construct fully mediates the effect of perceived innovation on purchase intentions. In addition, the mediation effects of anticipated satisfaction via the full model were examined (χ^2 = 107.62, df = .41, CFI = .98, TLI = .98, and RMSEA = .070) and the full model fit was slightly better than the hypothesized model (χ^2 diff = .99, df = 1), again the direct path became insignificant, indicating that the anticipated satisfaction construct fully mediates the effect of perceived innovation on purchase intentions. These analyses collectively indicate perceived quality and anticipated satisfaction fully mediate the relationship between perceived innovation and purchase intentions.

CONCLUSIONS & MANAGERIAL IMPLICATIONS

Overall, the hypotheses presented are supported by the results obtained in the study. As predicted, consumer perceptions of innovation lead to perceptions of quality. Firms that spend millions of dollars a year without regard for how consumers' perceive, or recognize, their innovation efforts may not be maximizing their return on investment. Our findings support the notion that if consumers perceive a firm to be innovative, they also perceive a higher quality product, and are more likely to embrace the efforts of the firm and purchase the innovative offerings. Every fall Apple unveils its latest innovations, while the changes are not often considered to be radical innovations (Chandy & Tellis, 1998), consumers gravitate to the innovations presumably because they are perceived to be more innovative compared to previous versions. Thus, Apple's strategy appears to be successful in conveying the firm's innovativeness. Recently, Samsung's unveiling of new products has mimicked Apple, presumably to create a buzz in an effort to convey their offerings, highlighting innovativeness over the competition or previous versions of the product.

We also hypothesize that perceived innovation would have a positive influence on anticipated satisfaction (H_{1b}). This path is also significant, however it does not appear as strong as the path to perceived quality. This is not surprising, as

consumers' are not necessarily going to perceive a product as innovative and automatically anticipate satisfaction. There are many factors that could come into play, one of which is their feelings toward the organization or product. For example auto manufacturers now equip most vehicles with built-in GPS units that allow for turn-by-turn navigation. While consumers may perceive this as an innovative product offering, it does not necessarily mean that they will be satisfied with it in their cars. They may not have any use for a GPS unit since they rarely travel unknown roads, already have it on their phone, or feel that it is too complex and not within their realm of understanding. However, customers that perceive an offering as innovative are likely to view it as creating a certain level of satisfaction even if the product isn't ideal for him or her. The relationship between perceived innovation and perceptions of quality, and the subsequent impact on anticipated satisfaction, helps to bridge the gap. This path has the largest standardized loading in the model. As consumers' perceive a firm to be innovative, their perceptions of product quality will likely increase, which in turn has an impact on anticipated satisfaction. Firms must recognize that generally consumers' believe innovation leads to greater product quality and are likely to expect it to lead to greater satisfaction. As shown in previous studies, perceived quality leads to satisfaction, and this model is no different (e.g., Otto & Ritchie, 1995; Spreng & Mackoy, 1996). Consider the shopping experience offered by Amazon.com. If an individual is aware of the innovative service provided by Amazon, s/he is likely to perceive Amazon to be a high quality retailer. Being aware of innovations from Amazon will likely stimulate perceptions of quality, which in turn will lead an individual to believe that the shopping experience will be better because of it. Similarly, that perception of quality is likely going to create an anticipated level of satisfaction.

The mediation effects of perceived quality and anticipated satisfaction demonstrate the importance of both when evaluating consumer perceptions of innovation. While past research, and current popular press articles, examine innovation from a myriad of angles – employee perceptions, top management rankings, stock valuations, etc., understanding how consumers perceive the innovation efforts of a firm should not be overlooked. Thus, organizations must consider how investments in innovation impact consumer perceptions of firm innovativeness in order to maximize their return.

Samsung has appeared to note this with its latest efforts surrounding cell phone offerings. As previously mentioned, recent product unveilings are beginning to look similar to Apple's in terms of magnitude and circumstance. As such, due in large part to improved perceptions of the phones, Samsung's Galaxy line of cell phones recently out sold the iPhone for the first time (Zeman, 2013). It isn't that Samsung has gone to a new level in terms of innovation, but rather they are seemingly aware of the hype and buzz needed to create the image of innovativeness that leads to perceptions of quality and creates anticipated satisfaction. It takes more than merely being an innovative company to garner the attention of consumers, firms need to recognize that building a buzz or hype around the company's innovativeness is critical to building consumer awareness of the efforts of the firm.

Building upon the previous hypotheses, the path from perceived quality to purchase intentions (H_{2b}) is significant, yet the standardized regression weight is not as great as that from anticipated satisfaction to purchase intentions (H_{2c}). As mentioned earlier, although consumers may perceive an innovation to be high quality, that alone may not lead them to purchase the product. Consumers interested in purchasing a new car likely perceive the innovative GPS system to be of high quality, but as they have little use for it they are likely to opt for a less expensive GPS-free version. On the other hand, as consumers perceive vehicles with GPS units to be of higher quality, and it leads to greater levels of anticipated satisfaction, that will likely influence their purchase decision. Without that increased level of anticipated satisfaction, consumers would have less motivation to purchase the innovative product, thus minimizing any impact it may have on their future intentions. Thus, it is critical that firms understand what consumers deem as innovative and high quality, while simultaneously understanding that the quality added must create satisfaction. Organizations

must understand what consumers expect from a product and provide an adequate level of quality to meet or exceed those expectations.

Retail and service firms are now frequently listed as some of the most innovative companies. For example, Amazon.com, Marriot International, and Chipotle Mexican Grill are listed amongst the top 20 most innovative companies (Forbes, 2014). Again, innovativeness rankings are established by a group of investors and based largely on financial metrics (Forbes, 2014), without consumer input. Consider Chipotle, the quick casual restaurant chain that has expanded rapidly in the past few years. Chipotle's menu has changed very little, if at all, in recent years, yet it finds its way onto Forbes' list of most innovative companies. Is Chipotle that much more innovative than Taco Bell, which doesn't appear anywhere in the top 100, yet has revamped its menu offerings, marketing campaigns and mobile presence in recent years? According to Forbes it is, however if you ask the average consumer the response may be different. The present research suggests that while expert opinion is not without merit, consumer perceptions of innovativeness are extremely important and should be considered when assessing a firms' level of innovativeness, or when a firm's strategy dictates the need to be viewed as innovative.

LIMITATIONS AND FUTURE RESEARCH

As with all research, our study is not without limitations. The data were gathered from single sources and only purchase intentions, not actual purchase, was measured. This decision was made due to the nature of the study in order to maintain control over the information participants viewed. The use of a single data source increases the possibility there could be common method variance (CMV) induced in the results. Care was taken to minimize the potential for CMV via the arrangement of the survey items, ensuring anonymity, and spatially separating independent and dependent variables (Lindell & Whitney, 2001; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). The results of the Harman one-factor, and Lindell and Whitney (2001), tests to check for the effects of CMV suggest it was not an issue.

Another potential limitation stems from the use of a single industry with which participants were provided innovation insights. Future research should seek to extend the current study by examining other industries, or examining the impact of innovation of physical goods. In addition, future research may examine additional moderating variables such as type of good or service, or the uniqueness of an innovation. Different types of innovations, and consumers' perceptions of the degree of innovation may provide a unique insight. Researchers may wish to evaluate domestic versus international firms to establish how a firm's nationality impacts perceptions of innovation. Future research may also explore additional communication strategies and tactics that firms utilize in order to promote innovative offerings. While this study attempts to examine the impact of innovation on consumer intentions, there are many avenues of research that should be explored to further the knowledge of academics and practitioners.

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APPENDIX A:

Perceived Innovativeness – Moorman 1995, Fang 2008
This movie theater is challenging existing ideas compared to other theaters.
This movie theater offers new ideas to the marketplace.
This movie theater is creative.
This movie theater is interesting.

Anticipated Satisfaction - Oliver 1980
I would be happy about my decision to visit this movie theater.
I would believe I did the right thing if I decided to visit this theater.
Overall, I would be satisfied with my decision to visit this theater.

Perceived Quality[a] – Taylor & Bearden 2002
I believe that this movie theater will be.
(low quality – high quality)
(bad – good)
(inferior – superior)
(worse than most – better than most)

Purchase Intentions Items[a] – Oliver & Swan 1989
What is the likelihood you would choose this movie theater?
(unlikely – likely)
(very improbable – very probable)
(impossible – possible)
(no chance – certain)

[a]Measured using a seven-point semantic differential
All other scales measured using a seven-point Likert scale with "Strongly Disagree" and "Strongly Agree" as the anchors.