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### **A Study of the Effectiveness of Customer Co-Creation Through Personalization and Customer Co-Creation Through Innovation on Brand Experience**

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*Abstract: The purpose of this article is to study the effect of two types of customer co-creation, co-creation through personalization and co-creation through innovation, on brand experience. Customer co-creation through personalization focuses on the act of improving or changing a standardized product to make it unique to the consumer, and customer co-creation through innovation occurs when the consumer helps the company create a brand new product. Studies have shown that positive brand experiences can lead to improved brand satisfaction and loyalty, so looking at co-creation's impact on brand experience will point to how co-creation ultimately benefits a company. In order to measure the brand experience of different types of co-creation, the five dimensions of brand experience are used: sensory, affective, cognitive, behavioral, and relational. To test how the different types of co-creation affect the different levels of brand experience and consumers' buying behavior, I conducted an experiment. In order to account for extraneous factors, I also took the brand name and product category into consideration when evaluating co-creation's overall effect. I found that customer co-creation through personalization and customer co-creation through innovation have different effects on the various dimensions of brand experience. The cognitive and behavioral brand experience dimensions were changed the most by customer co-creation, and the affective and relational dimensions were not changed at all by customer co-creation. From this, I can conclude that companies should not use customer co-creation to induce feelings or an emotional bond with consumers, but they should use co-creation to stimulate consumers' thinking and action. Results did vary, though, depending on the brand name and product category. Ultimately, if a company is planning to execute either version of customer co-creation, there are many factors to consider (such as brand name, product category, type of co-creation, industry, and customers) before putting the plan into action.*

Consumer-facing companies around the world are constantly trying to think of the next best way to market to customers. Lately, marketers have been focusing on creating positive brand experiences for customers. The idea of brand experience encompasses many different marketing techniques; one of the most popular new ideas is customer co-creation (Nysveen, 2014). Companies are attempting to work collaboratively with customers to create new and unique products that satisfy the wants and needs of their markets. Customer co-creation can be executed in various ways, two of the most popular are customer co-creation through innovation (new product) and customer co-creation through personalization (modify existing product). A recent example of co-creation through innovation is the “Do Us a Flavor” campaign put on by the Lays potato chip brand. For this campaign, customers submit new chip flavor ideas which are eventually narrowed down to a top four. Lays innovates four new chip products based on customers’ ideas, and after allowing customers to vote from the top four, releases a permanent new chip flavor (Guff, 2015). In addition, a recent example of co-creation through personalization allows M&Ms’ customers to create personalized candies with certain words or pictures on each M&M (mymms.com). These particular co-creation campaigns represent recent examples from a few of the many companies that are utilizing this marketing tactic.

Research produces a large variety of definitions for customer co-creation. For the purpose of this study, customer co-creation is defined as the “degree to which customers actively participate with companies to improve existing products or discover new products in order to create additional value for both the customer and the company” (Nysveen, 2014, p.811). Specifically, customer co-creation through innovation focuses on customers’ participation in new product development (Fuller, 2010), and customer

co-creation through personalization focuses on how customers change an already existing product, either through appearance or functionality, to improve its personal relevance to the customer (Mugge, 2007). According to Nysveen and Pedersen (2014), “The experience is the brand” (p.808). Therefore, the key to obtaining a competitive advantage for companies is to create brand experiences, and one of the ways that this can be done is through co-creation activities. Fuller (2010) demonstrates that an enjoyable co-creation experience positively impacts the consumer-company relationship as well as the consumer-product relationship. Additionally, Nysveen and Pedersen (2014) show that engaging in co-creation activities strengthens the brand experience, and relational brand experience has a strong positive influence on both brand satisfaction and brand loyalty. These findings support the idea that if co-creation leads to a strong brand experience (Nysveen, 2014) and co-creation impacts the consumer-company relationship (Fuller, 2010), then this positive relational brand experience can create increased brand satisfaction and brand loyalty (Nysveen, 2014) which both lead to increased sales. Although these conclusions have been made about co-creation’s influence on brand experience, there has not been research performed that dives deeper into the specific types of customer co-creation and their effects on customers.

Because of this gap in the research, there is an opportunity to compare and contrast the effectiveness of co-creation through innovation and through personalization based on customers’ brand experiences with each type. In order to gather data about customers’ brand experiences, I will conduct an experiment testing different product categories incorporating the two types of co-creation as well as a “control” group that has no changes made to the product. Through analysis of these data, I will suggest beneficial methods for companies across a variety of industries to

engage with customers through co-creation—whether it be innovation, personalization, or no co-creation.

## **Literature Review**

### **Brand Experience**

In today's customer-centric world, companies realize that, "the experience is the brand" (Nysveen, 2014, p.808). Therefore, in order to be competitive in the market, brands must create experiences for their customers. Research has shown that consumers can have experiences in many forms: product experience, shopping and service experience, consumption experience, etc. (Brakus, 2009). These experiences occur when consumers are searching for, shopping for, experiencing, and consuming products or services. However, throughout each of these experiences, brand-related stimuli is present. Brand-related stimuli can be anything from a certain brand's colors to a brand's slogan or from the brand's mascot to its marketing communications—anything that is a part of a brand's identity (Brakus, 2009). These brand-related stimuli lead to brand experiences for consumers. Brand experience is described as, "subjective, internal consumer responses (sensations, feelings, and cognitions) and behavioral responses evoked by brand-related stimuli that are part of a brand's design and identity, packaging, communications, and environments" (Brakus, 2009, p. 53).

### **Five Dimensions of Brand Experience**

Brakus (2009) reveals that brand experience can be broken down into four dimensions: sensory, affective, intellectual (or cognitive), and behavioral. In 2014, Nysveen and Pedersen's study found that there are five brand experience dimensions. These researchers added to the four that Brakus originally found by adding a relational dimension. Each dimension is unique in its effect on a consumer's brand experience.

The sensory dimension deals with whether the brand makes a strong impression on the consumer's senses (Brakus, 2009). An example of this would be if a brand had a dynamic marketing campaign that catered to the consumer's visual sense or a catchy jingle that peaked the consumer's interest through his or her auditory sense. The affective dimension seeks to uncover if a brand evokes strong emotions from the consumer (Brakus, 2009). For example, BMW may make consumers feel young and stylish. Since this induces a feeling or an emotion in the customer, it impacts the affective dimension. The next dimension, behavioral, seeks to discover if the brand causes the consumer to take any physical action (Brakus, 2009). The Nike brand and its products provoke the consumer to take action when using the brand; for example, running in Nike shoes or going to a workout class wearing Nike apparel. The intellectual (or cognitive) dimension reveals whether the brand makes the consumer think or stimulates curiosity within the consumer (Brakus, 2009). Google represents an example of a brand that spurs intellectual curiosity within its users. Anytime someone is using Google Search, they are seeking knowledge or information about a specific topic. Lastly, a brand with a relational component makes the consumer feel connected to the brand on a deeper level—as if they have built a relationship with that company (Nysveen, 2014). An example of a strong relational brand would be Mary Kay. This company instills a personal connection with the brand and the products by having a personal consultant for each customer. A brand can possess one or many of these dimensions. These five dimensions provide marketing researchers as well as marketers the tools to measure brand experience.

### Why Does Brand Experience Matter?

With all this detailed knowledge of brand experience, it is also important to ask—why does it matter? Brakus (2009) concludes that brand experience has a behavioral affect; it directly impacts consumer satisfaction and loyalty and indirectly impacts brand personality. Research proves brand experience and brand satisfaction lead to brand loyalty (Nysveen, 2014); therefore, it is very important for a brand to strive to create experiences and satisfaction since both lead to brand loyalty and repeat purchases by consumers. Therefore, creating successful brand experiences for the consumer positively impacts the company's long term sales and success.

### Customer Relationships

Creating brand experiences for consumers can not only lead to customer satisfaction and loyalty, but it can also lead to relationships between customers and brands (Malaviya, 2002). There are a variety of customer interaction levels which lead to different types of relationships that companies can develop with their customers (Malaviya, 2002). Different levels of customer relationships are accomplished by creating appropriate types of marketing campaigns. Malaviya and Spargo (2002) created the Customer Relationship Pyramid, which is a model that demonstrates the six motivators that can form the basis of customer relationships with companies. The six motivators, in order of increasing depth, are: utility, convenience, feeling at ease, personal recognition, self-expression, and co-creation (Malaviya, 2002).

Note that the deepest levels of interaction are self-expression and co-creation. With these motivators, the consumer is not only looking for a product that fulfills the first four levels (utility, convenience, feeling at ease, and personal recognition), but also wants a product that will allow him or her to express his or her personal identity

(Malaviya, 2002). In the fifth level, self-expression, the customer wants to feel appreciated for who they are and what they value; this leads to a concentration in customizing and personalizing the product (Malaviya, 2002). In relation to my research, the self-expression motivator is synonymous with customer co-creation through personalization. The deepest level of the Customer Relationship Pyramid, co-creation, occurs when the customer strives to act as a partner with the company (Malaviya, 2002). For the sake of this study, the co-creation motivator will be equivalent to customer co-creation through innovation. Customer relationships of this type are personal, collaborative, loyal, and interactive (Malaviya, 2002). Brand experiences can lead to increased brand satisfaction and loyalty as well as stronger customer relationships. Knowing that the two deepest levels of the Customer Relationship Pyramid are the two main marketing tactics researched in this study, it is important to develop an overall understanding of what co-creation is, as well as dig deep into the specifics of co-creation through personalization and co-creation through innovation.

### Customer Co-Creation

Co-creation can be looked at in a variety of different ways and defined on a broad or narrow scale (Nysveen, 2013). Prahalad and Ramaswamy (2004) take a broad perspective by stating that it is “joint creation of value by the company and the customer” (p. 8). Because of this holistic view of co-creation, one could argue that co-creation can take place at any point in the value chain of developing, producing, distributing, selling, and using a product. For example, the fact that IKEA encourages its customers to provide their own product transportation and assembly, which allows the products to be sold at lower prices, could be considered co-creation (Kambil, 1999). In another example, Fiat wanted to test new concepts for its Punto, so it invited potential

customers to select certain features from a list on their website to create the ideal car (Kambil, 1999). Some could argue that eBay and Amazon are also participating in co-creation since both websites create personalized experiences for the users, involve communities, and encourage dialogue (Prahalad, 2004). With such a broad definition of customer co-creation, it is challenging to focus in on how co-creation affects brand experience since one could argue that almost any interaction with the customer could be viewed as “co-creation.” Therefore, for the purposes of this study, I will utilize Nysveen’s (2013) definition which states that co-creation is, “the degree to which consumers actively participate with companies in improving existing solutions or finding new solutions to create more value both for the consumer and the company” (p. 811).

After describing what co-creation is, it is also important to note what co-creation is not. Prahalad and Ramaswamy (2004) emphasize that it is not “the transfer or outsourcing of activities to customers . . . Nor is it a scripting or staging of customer events around the firm’s various offerings” (p. 10). Those types of company-customer involvement do not satisfy most customers in today’s market. The co-creation that Prahalad and Ramaswamy (2004) identify is more fundamental. It involves personalized interactions with individuals that want to interact with the company, and it emphasizes “consumer-company interaction as the locus of value creation” (p. 10).

### How Companies Co-Create

Understanding how companies go about this type of co-creation will help in understanding why firms choose to do it. The internet facilitates new ways for customers to communicate with companies and allows large groups of people to give their input about specific products or services (Kambil, 1999). Prahalad and Ramaswamy (2004)



created building blocks of interactions for co-creation of value which are dialog, access, risk-benefits, and transparency (DART). Dialog refers to the ability to interact and engage with customers, and whether each side of this communication (companies and customers) is willing and able to do so. Dialog must revolve around points of interest to both parties involved (Prahalad, 2004). Also, a customer who wants to engage in co-creation must have access to enough available information in order to be an educated and effective partner in the interaction. For this to happen, the company needs to provide a certain level of transparency (Prahalad, 2004). Lastly, if each party has the other three building blocks of dialog, access, and transparency, risks and benefits can be evaluated for the company as well as the customer (Prahalad, 2004). With these building blocks as well as advanced technology to retrieve all this information, companies are able to co-create value for their customers.

### Risks of Co-Creation

Although co-creation is a great way to engage with customers, it is also a marketing technique that requires significant time, effort, and funding. Not only that, but there are certain risks involved in participating in customer co-creation. Kambil, Friesen, and Sundaram (1999) highlight a few risks such as privacy, legality, brand image, effort, and equity of returns. Any participation with an online component will have privacy concerns for the customer as well as the company. Co-creation could result in legal risks dealing with intellectual property or the violation of copyrights that are already in place. The value of a brand can just as easily be diminished through an online co-creation activity as it can be improved, so companies need to be careful how they approach co-creation campaigns. Compared to a traditional market interaction, customer co-creation not only requires more effort on the part of the company but also

on the part of the customer. Therefore, the company must evaluate the purpose of the co-creation activity to determine whether it is worth the time and effort required to have a successful campaign. Lastly, both companies and customers will want some type of return from their involvement in the process. Companies will usually expect a spike in sales while customers want to feel like their voice is heard through the improvement or creation of a product that is rooted in their ideas (Kambil, 1999). All of these risks must be weighed with the rewards of engaging in customer co-creation.

### Rewards of Co-Creation

So, what are the rewards of participating in these co-creation activities? Prahalad and Ramaswamy (2004) state it clearly by saying, “the future belongs to those that can successfully co-create unique experiences with customers” (p .12). The market is no longer a company-centric environment, but rather a consumer-centric space.

Companies must interact with customers and understand their wants and needs to be successful. In order to understand co-creation’s direct impact on brand experience, brand satisfaction, and brand loyalty, Nysveen and Pedersen (2014) conducted a study to test how these important factors are impacted by customer-company interaction.

Figure 1 illustrates the concepts that were tested in the study.

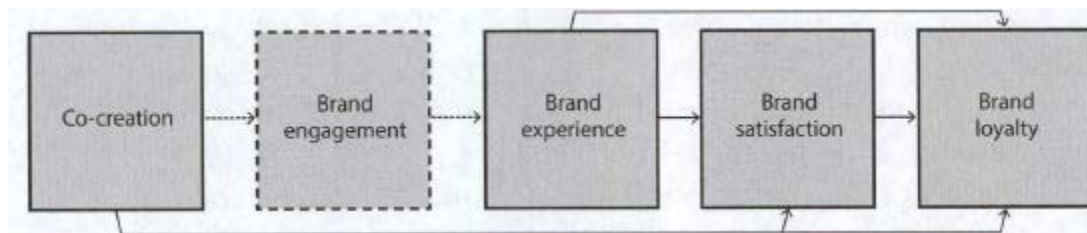


Figure 1

The results of Nysveen and Pedersen’s (2014) study show that co-creation as a whole has a positive impact on the five brand experience dimensions: sensory, affective,

cognitive, relational, and behavioral. Therefore, participating in co-creation activities with consumers strengthens brand experience (Nysveen, 2014). The study did not stop at how co-creation affects brand experience, it also looked at how brand satisfaction and brand loyalty are affected. The results for these two concepts are not as clear cut as the result for brand experience. There proved to be positive influences of sensory and relational experiences on brand satisfaction, but cognitive and affective experiences have a negative influence on brand satisfaction (Nysveen, 2014). From this finding, the researchers concluded that brands need to be careful how they stimulate cognitive and affective experiences through co-creation. Cognitive activities may be too demanding for consumers, possibly leading to frustration and a negative brand experience (Nysveen, 2014). Interestingly, only the relational brand experience dimension impacted brand loyalty directly (Nysveen, 2014). Therefore, one takeaway from this study is that it is important to focus on the relational brand experience dimension, because it had a positive influence on brand experience, brand satisfaction, and brand loyalty (Nysveen, 2014). Also, the effects of co-creation are both indirect and direct, and companies need to be aware of co-creation's overall effects on the consumer's brand experience (Nysveen, 2014).

Fuller (2010) also discovered related findings about co-creation and its effect on the consumer-company relationship and the consumer-product relationship. Fuller (2010) concludes that an “enjoyable and compelling co-creation experience positively affects trust, word of mouth communication, and brand image” (p. 5). Also, consumers believe the company they are co-creating with is more customer oriented, genuine, trustworthy, and innovative (Fuller, 2010). Not only does a positive co-creation

experience support the consumer's relationship with the brand, but Fuller (2010) also proves that it increases consumers' interest in the new or improved product; this leads to the consumers' willingness to pre-order the product before it even exists—ultimately helping the launch of the new or improved product. Although participating in co-creation can have its challenges, the rewards of a positive co-creation experience far outweigh the risks.

### Customer Co-Creation through Personalization & Customer Co-Creation through Innovation

As previously mentioned, customer co-creation can take on many forms and meanings depending on how the company wants to utilize this technique. For the purposes of this study, the two specific types of customer co-creation that will be studied are customer co-creation through personalization and customer co-creation through innovation. In order to gain a deeper understanding of these two concepts, I researched each one individually and discovered the differences between allowing customers to personalize a product and allowing them to help the company create a new product.

#### Customer Co-Creation through Personalization

Customer co-creation through personalization can also be referred to as product personalization. Mugge, Schoormans, and Lange (2007) define product personalization as “a process that defines or changes the appearance or functionality of a product to increase its personal relevance to an individual” (p. 1). As Kwon and Kim (2011) point out, it is important to explore the term “customization” in order to fully understand personalization. Oftentimes, researchers use these terms interchangeably, but other researchers state they are different concepts (Kwon, 2011). Kwon and Kim (2011) assert that certain researchers view personalization as the firm deciding which marketing mix

is most suitable for a customer, based on previously collected customer data, and view customization as the customer deciding certain elements of his or her marketing mix. Therefore, some researchers believe personalization is a firm-initiated concept and customization is a customer-initiated concept (Kwon, 2011). However, for this study, personalization will be viewed in a broad sense (as the “umbrella term”) and customization will be a sub-concept under personalization. Mugge, Schoormans, and Lange’s (2007) definition of personalization will be applied, and customization will be considered as a way to execute customer co-creation through personalization. Providing consumers a higher degree of authority over the design on a product gives them the ability to create products that better fit their identity (Mugge, 2007). Ultimately, personalization will increase the fit of the product to individual preferences, enhance the product’s ease of use, and reflect a specific person or group’s identity (Mugge, 2009).

Personalizing products has become a new phenomenon as technology has advanced and has allowed customers to put their own unique twist on normal, everyday products. For example, NIKEiD allows customers to go online to customize their shoes ([nike.com/NikeiD](http://nike.com/NikeiD)). Customers can choose the colors of the Nike swoosh, laces, base of the shoe, etc. to make it exactly how they want it. Another example is how M&Ms allows customers to buy personalized M&Ms with certain phrases or pictures on them ([mymms.com](http://mymms.com)). These customized party candies can be used for a variety of celebratory occasions. In each of these examples, the company has a “base model” for what the product is and the customer has the opportunity to change some aspects of the product to make it their own.

## Benefits of Customer Co-Creation through Personalization

Customer co-creation through personalization creates unique products for each consumer which is a lot of work for the company, so why would a company do it? The ultimate goal of personalization is to increase the customer retention rate by providing a unique and competitive value to customers (Kwon, 2011). Customer loyalty and satisfaction affect customer retention (Kwon, 2011); therefore, it is imperative for companies to build up customer loyalty and satisfaction to be successful in the long run. Research by Mugge, Schoormans, and Schifferstein (2009) proves that by personalizing the product's appearance, a customer invests effort in the product, and their findings show that the amount of effort invested has a direct and an indirect impact on the strength of the emotional bond with the product. Any emotional responses to products can be a decisive factor in purchasing decisions (Mugge, 2009). Consumers put forth significant effort into the co-creation of a product—considering the amount of time, energy, and attention that they invest in the product (Mugge, 2009). The research shows that the effort invested during the personalization process strengthens the person-product relationship (Mugge, 2009). This strengthening of the relationship between the customer and the product could lead to improved customer loyalty and satisfaction which contribute to customer retention (Kwon, 2011). It is not only beneficial from the consumer perspective, but it is also cost-effective from the company's point of view. When comparing co-creation through personalization and co-creation through innovation, the personalization route is significantly less expensive than developing, creating, and distributing a brand new product. The cost factor is a major component that companies should be aware of when deciding which type of co-creation to execute.

### Potential Risks of Customer Co-Creation through Personalization

When a company decides whether or not to participate in customer co-creation through personalization, there are some potentially detrimental factors to consider. As the effort invested in personalizing the product increases, the perceived complexity of the task also increases (Mugge, 2009). This could cause customers to be confused (Mugge, 2009) and have a negative experience with the product and brand. Not only that, but customers who are co-creating through personalization could also potentially spoil the product because they are not skilled at designing their own product (Mugge, 2009). Due to this potential downfall, it is the company's responsibility to find a balance between creating design opportunities and guaranteeing product quality for the consumer (Mugge, 2009). Research has also determined that product personalization needs to be applied to the right type of product and brand. Mugge, Schoormans, and Lange (2007) found that personalizing products provides value for consumers if the personalization involves a visible product component. This value is created because personalizing a visible aspect of a product allows customers to create a more self-expressive product to show their identity to themselves and others; however, if the personalization is only visible to the owner of the product, the social aspect of self-expression is diminished and consumers do not want to invest as much time or effort into the process (Mugge, 2007). Although there are certain aspects that companies need to be aware of before engaging in customer co-creation through personalization, if it is done well, this marketing tactic can be extremely beneficial for the company and its customers.

## Customer Co-Creation through Innovation

Customer co-creation through innovation is defined as, “a collaborative new product development (NPD) activity in which consumers actively contribute and select various elements of a new product offering” (Hoyer, 2010, p. 283). Simply put, co-creation through innovation allows consumers and firms to work collaboratively in the new product development process. This idea differs from customer co-creation through personalization because it involves the development of a new product, whereas co-creation through personalization focuses on changing an already-made product to make it more unique to that specific consumer. Customer co-creation through innovation allows companies to gain insight into what their consumers want in the next up-and-coming product.

Similar to how technology enables customer co-creation through personalization to take place, technology plays a huge role in customer co-creation through innovation. The use of the internet allows consumers to develop their new product ideas. An example of customer co-creation through innovation is the Lays “Do Us a Flavor” campaign (Guff, 2015). The Lays brand allows consumers to submit new potato chip flavor ideas as suggestions for the next new Lays product. Anyone around the country can submit an idea online – whether it be Bacon Mac ‘n’ Cheese or Peanut Butter Chocolate – Lays will accept any and all ideas. Consumers have an incentive to participate because the winning chip flavor creator receives one million dollars in prize money (Guff, 2015). After a certain amount of time, the general submission opportunity will be closed. A top four flavors are announced to the public, and Lays creates the top four flavors to be distributed to grocery stores across the country. Eventually, the American public votes on their favorite flavor and the winner is announced. This is an



example of customer co-creation through innovation, because there is a completely new Lays product being developed based on the consumers' ideas, wants, and needs. The point is that the ideas generated with co-creation through innovation will more closely reflect customers' needs (Hoyer, 2010).

### Benefits of Customer Co-Creation through Innovation

There are many benefits for companies that engage in customer co-creation through innovation. First of all, there is a higher probability that the new product will be successful when it hits the market (Hoyer, 2010). Since the company took the consumer's wants and needs into consideration, the product has a closer "fit" to what the consumer really wants to buy. Not only that, but because the product was co-created by consumers, it also has an automatic level of differentiation from other similar products on the market. It is for this reason that co-creation through innovation also provides a competitive advantage for the company (Hoyer, 2010). Due to the improved goodness of fit and the competitive advantage that co-creation through innovation provides, there is a reduced risk when releasing this new product to the market. It is more likely that the market will accept the new product if consumers know that they helped in the creation of it (Hoyer, 2010). And this acceptance of the product is one of the major goals of any company when releasing a new product to the public. Another reason new product success is more likely with a co-created product is because consumers are more willing to try a new product if they know it was developed with the consumers' ideas in mind (Hoyer, 2010). People shopping around the store will be more willing to buy something new if they know it was inspired by their peers. Overall, the success of the new, innovated product could be significantly affected if it was co-created by customers.

Another benefit of participating in customer co-creation through innovation is that it has the potential to reduce costs for a company (Hoyer, 2010). First of all, cost reduction could take place due to the fact that the company is receiving ideas from customers at little or no cost to the company. Rather than paying a group of employees or an agency to come up with new product ideas, the company simply turns it over to the consumers and fields all of their ideas and requests. With this method, the company gets a much broader pool of ideas for minimal cost. Another way that the company could potentially save money is through reduced marketing expenses (Hoyer, 2010). Since the new product is co-created by consumers, there will be much more enthusiasm around the development and launch of the product. This will increase word-of-mouth on behalf of the product which would reduce the need for traditional marketing tactics. Word-of-mouth is sometimes considered a better marketing tool since the “promotion” of the product is coming from people’s friends and families, rather than an ad on TV or in a magazine. Co-creation through innovation in and of itself is a marketing tactic. This, again, leads to the success of the new product in the market. Saving money on generating new product ideas and on marketing could make a big difference in the profitability of the new product.

Lastly, another benefit of customer co-creation through innovation is a stronger customer-firm relationship (Hoyer, 2010). A company going through the process of co-creation through innovation does a lot for its consumer base. It creates trust, appreciation, and loyalty. Consumers are more willing to trust a brand that seeks to know what they want. This has a positive psychological effect on the consumer because they sincerely believe the company is looking out for their best interests (Hoyer, 2010).

Not only that, but the consumer also appreciates the fact that they have the ability to give their input about the new products and direction of the company. Customers feel valued when their opinions are sought out by the company. Both of these feelings, trust and appreciation, ultimately lead to loyalty to the company and brand. As Nysveen and Pedersen found, co-creation can have a positive influence on brand loyalty (2014). The development and strengthening of the customer-firm relationship is a major benefit of engaging in customer co-creation through innovation.

### Potential Risks of Customer Co-Creation through Innovation

Although there are many benefits to customer co-creation through innovation, it is important to consider the risks and costs associated with participating in this strategic activity. Similar to co-creation through personalization, co-creation through innovation has the risks of secrecy and legality (Hoyer, 2010). A company participating in co-creation through innovation has to be willing to unveil a certain amount of information. Providing this level of transparency leads to less secrecy when it comes to releasing a new product. Companies also need to be careful of ownership of intellectual property (Hoyer, 2010). If a consumer participates in providing an idea for the new product, that consumer must understand that they are giving up their intellectual rights to that idea. Secrecy and legality are a couple of the costs a company must weigh when deciding whether or not to engage in co-creation through innovation.

Other risks that a company needs to consider include information overload and production feasibility (Hoyer, 2010). As mentioned previously, when participating in customer co-creation through innovation, companies receive a lot of different ideas. Although this can be a benefit, it can also be a challenge because of the potential for

information overload. With a large inflow of ideas, companies may experience challenges in recognizing potentially successful ideas (Hoyer, 2010). It takes time and effort to sift through a lot of new product ideas to find a few great options. Not only that, but product feasibility needs to be considered as well (Hoyer, 2010). Many of the new product idea submissions will be from consumers who want to dream big. Most consumers do not fully understand the restrictions that may limit production realities of a new product. Therefore, employees not only have to search for quality new product ideas, but they also have to look for new product ideas that are feasible.

Lastly, a company needs to consider the incentives it will provide for participants (Hoyer, 2010). Most of the time, consumers will not participate in customer co-creation through innovation out of the goodness of their hearts. Since they are giving up precious time to provide the company with ideas, customers will want a reward or at least the potential to receive a reward. Consequently, companies often promise prize money to the customer who submits the best idea or they will give a gift card to anyone who is willing to provide the company with their ideas. These incentives are important to the success of the co-creation through innovation process, but they can also be costly to the company. This is a major cost that should be evaluated when deciding whether or not to participate in customer co-creation through innovation. Not only is prize money an added cost, but the money invested to create a brand new product based on customer feedback is a large expense as well. When compared to co-creation through personalization, co-creation through innovation is significantly more expensive when considering the development, creation, and distribution of a brand new product (Hoyer,

2010). A company should weigh all of these costs and benefits before deciding whether or not to engage in customer co-creation through innovation.

### **Conclusion**

Customer co-creation has many dimensions that can be studied. These days, brands are searching for ways to create experiences for their customers. This can be done in a variety of ways, one of which is customer co-creation. Because of advanced technology, customers can communicate directly with brands to help in the creation of a new product (customer co-creation through innovation) or the changing of a current product (customer co-creation through personalization). Both types of co-creation have costs and benefits that the company must fully understand when deciding if it is an appropriate marketing tactic. It will be interesting to research these two types of co-creation and see how each one affects a customer's brand experience.

### **Hypothesis Development**

In order to develop the hypotheses for the study, I looked for a "gap" in current literature. Although the general idea of co-creation has been investigated in correlation with the dimensions of brand experience, I wanted to dig deeper to understand how different types of co-creation (personalization and innovation) affect the dimensions of brand experience and peoples' buying behavior. I also wanted to eliminate any extraneous factors, so I included two different types of brand and product category. The brands used were either known or unknown and the product category was either convenience or specialty. I did not want the respondents to be affected by their preconceived notions of certain brands or the type of product that was being discussed. Ideally, the results would show how each type of co-creation affected the respondents'

brand experience. For each dependent variable, I hypothesized the impact of the main effect of co-creation being involved (M: CC) and the interaction effects of co-creation and brand (I: CC\*B), co-creation and product category (I: CC\*PC), and co-creation, brand, and product category (I: CC\*B\*PC).

### Sensory Dimension Hypotheses

Overall when evaluating how the three independent variables (co-creation type, brand type, and product category) would impact sensory brand experience, I anticipated that sensory brand experience would be highest for co-creation through innovation for convenience products of known brands. This is because convenience products tend to be items that the customer can feel and see, and sometimes even taste and smell, so there are many senses involved, and I anticipated the brand experience response to be stronger for known brands. Lastly, co-creation through innovation is the most involved type of customer co-creation, so I hypothesized that it will have the greatest impact on sensory brand experience.

<b>H</b>	<b>Effect</b>	<b>Hypothesis Statement</b>
1.1	M: CC	Sensory brand experience will be highest in co-creation through innovation, then in co-creation through personalization, and least in no co-creation.
1.2	I: CC*B	Sensory brand experience will be highest for co-creation through innovation with known brands.
1.3	I: CC*PC	Sensory brand experience will be highest for co-creation through innovation with convenience products.
1.4	I:CC*B*PC	Sensory brand experience will be highest for known convenience brands involved in customer co-creation through innovation.

### Affective Dimension Hypotheses

When evaluating how the three independent variables would impact affective brand experience, I anticipated that it would be highest for co-creation through personalization for convenience products of known brands. Since the affective dimension has to do with inducing the customers' emotions, I believed encouraging the

customer to “get personal” with the product by making it unique to them will increase the affective dimension the most. I also believed the brand experience response will be stronger for known brands since the customer is more familiar with them.

<b>H</b>	<b>Effect</b>	<b>Hypothesis Statement</b>
2.1	M: CC	Affective brand experience will be highest in co-creation through personalization, then in co-creation through innovation, and least in no co-creation.
2.2	I: CC*B	Affective brand experience will be highest for co-creation through personalization with known brands.
2.3	I: CC*PC	Affective brand experience will be highest for co-creation through personalization with convenience products.
2.4	I:CC*B*PC	Affective brand experience will be highest for known convenience brands involved in customer co-creation through personalization.

### Cognitive Dimension Hypotheses

When evaluating how the three independent variables would impact cognitive brand experience, I anticipated that it would be highest for co-creation through innovation for specialty products of known brands. Since co-creation through innovation is the most involved typed of customer co-creation, I believed it will require the most thinking or cognitive stimulation. I also believed mental stimulation will be heightened for specialty products since they are higher priced items that customers will take time to research. I anticipated that the brand experience will be stronger for known brands due to the fact that it is a brand that is already established.

<b>H</b>	<b>Effect</b>	<b>Hypothesis Statement</b>
3.1	M: CC	Cognitive brand experience will be highest for customer co-creation through innovation, then co-creation through personalization, and lastly, no co-creation.
3.2	I: CC*B	Cognitive brand experience will be highest for customer co-creation through innovation with a known brand.
3.3	I: CC*PC	Cognitive brand experience will be highest for customer co-creation through innovation for specialty products.
3.4	I:CC*B*PC	Cognitive brand experience will be highest for customer co-creation for known specialty brands.

## Behavioral Dimension Hypotheses

When evaluating how the three independent variables would impact behavioral brand experience, I anticipated that it would be highest for co-creation through innovation for convenience products of known brands. Since co-creation through innovation is the most involved type of customer co-creation, I believed it would be the most likely to activate the customer, and I anticipated that the response will be higher for known brands than unknown brands since known brands are already recognized by the customer.

<b>H</b>	<b>Effect</b>	<b>Hypothesis Statement</b>
4.1	M: CC	Behavioral brand experience will be highest for customer co-creation through innovation, then co-creation through personalization, and lastly, no co-creation.
4.2	I: CC*B	Behavioral brand experience will be highest for customer co-creation through innovation with known brands.
4.3	I: CC*PC	Behavioral brand experience will be highest for customer co-creation through innovation for convenience products.
4.4	I:CC*B*PC	Behavioral brand experience will be highest for customer co-creation with known convenience brands.

## Relational Dimension Hypotheses

When evaluating how the three independent variables would impact relational brand experience, I anticipated that it would be highest for co-creation through innovation for convenience products of known brands. Since co-creation through innovation makes the customer feel like a partner in the product development process, I anticipated that this “partnership” will make the customer feel like a part of the brand team or the brand family, thus increasing relational brand experience. I hypothesized that this relationship will be stronger with known brands since they are established in the market and in the minds of the customers.



<b>H</b>	<b>Effect</b>	<b>Hypothesis Statement</b>
5.1	M: CC	Relational brand experience will be highest for customer co-creation through innovation, then co-creation through personalization, and lastly, no co-creation.
5.2	I: CC*B	Relational brand experience will be highest for customer co-creation through innovation for known brands.
5.3	I: CC*PC	Relational brand experience will be highest for customer co-creation through innovation for convenience products.
5.4	I:CC*B*PC	Relational brand experience will be highest for customer co-creation through innovation with known convenience brands.

### Willingness to Buy Hypotheses

When evaluating how the three independent variables would impact the customers' willingness to buy the product, I anticipated that it would be highest for co-creation through innovation for convenience products of known brands. Since co-creation through innovation allows the customer to create a brand new product, I believe it would be a more desirable product. Not only that, but since it is a convenience good, it is not as much of a financial burden to try to the new product. Lastly, known brands possess name and product credibility, so it would make sense for customers to trust that brand and try one of their new products.

<b>H</b>	<b>Effect</b>	<b>Hypothesis Statement</b>
6.1	M: CC	Customers are most likely to buy the product if customer co-creation through innovation is involved, then co-creation through personalization, and lastly, no co-creation.
6.2	I: CC*B	Customers are most likely to buy the product if it involves customer co-creation through innovation with a known brand.
6.3	I: CC*PC	Customers are most likely to buy the product if it involves customer co-creation through innovation with a convenience product.
6.4	I:CC*B*PC	Customers are most likely to buy the product if it involves customer co-creation through innovation with a known convenience brand.

### Buy at a Premium Hypotheses

When evaluating how the three independent variables would impact the customers' willingness to buy the product at a premium (higher price), I anticipated that it would be highest for co-creation through innovation for specialty products of known

brands. I believe customers would be willing to pay more for a product that they were able to help create—especially if it is an item that they do not buy very often, so they want it to be exactly right, just like a specialty product. Also, I anticipated that customers are more willing to buy the product for more money if it is a well-known and established brand.

<b>H</b>	<b>Effect</b>	<b>Hypothesis Statement</b>
7.1	M: CC	The customer is most likely to buy the product at a premium price if customer co-creation through innovation is involved, then co-creation through personalization, and lastly, no co-creation.
7.2	I: CC*B	The customer is most likely to buy the product at a premium price if it involves customer co-creation through innovation with a known brand.
7.3	I: CC*PC	The customer is most likely to buy the product at a premium price if it involves customer co-creation through innovation with a specialty product.
7.4	I:CC*B*PC	The customer is most likely to buy the product at a premium price if it involves customer co-creation through innovation for a known specialty brand.

### Brand Loyalty Hypotheses

When evaluating how the three independent variables would impact the customers' brand loyalty, I anticipated that it would be highest for co-creation through innovation for convenience products of known brands. After taking the time to co-create a brand new product for the company, the customer would feel even more brand loyal.

<b>H</b>	<b>Effect</b>	<b>Hypothesis Statement</b>
8.1	M: CC	Brand loyalty will be strongest when customer co-creation through innovation is involved, then co-creation through personalization, and lastly, no co-creation.
8.2	I: CC*B	Brand loyalty will be strongest when customer co-creation through innovation is involved with known brands.
8.3	I: CC*PC	Brand loyalty will be strongest when customer co-creation through innovation is involved with a convenience product.
8.4	I:CC*B*PC	Brand loyalty will be strongest when customer co-creation through innovation is involved with known convenience brands.

## Methodology

### Experiment

In order to test the hypothesis statements, I developed a 3x2x2 experiment with three levels of co-creation (no co-creation, co-creation through personalization, and co-creation through innovation), two levels of brand (known and unknown), and two levels of product category (convenience and specialty). The primary purpose of the experiment was to test how different co-creation scenarios affect brand experience. In order to test this, I created 12 distinct scenarios, all with a different combination of factors including co-creation type, brand type, and product category. The three co-creation types are no co-creation (NCC), co-creation through personalization (CCP), and co-creation through innovation (CCI). I incorporated different brand types and product categories in order to limit extraneous factors affecting the respondents. The two brand types are known brand and unknown brand. Lastly, the two product categories are convenience products and specialty products. By incorporating different types of brands and product categories, I hoped to eliminate any bias so the main differentiating factor would be the type of co-creation. After reading each scenario, the respondents would answer questions about their brand experience and their buying behavior.

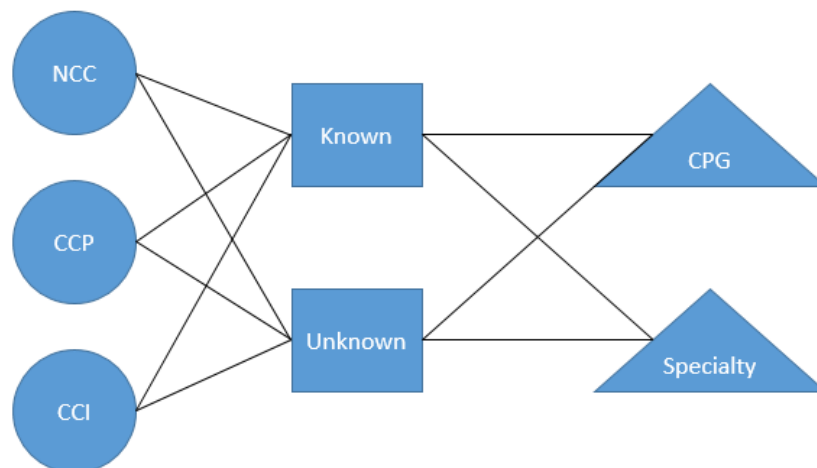
Prior to sending out the survey, I conducted a pretest to check that respondents understood the differences in each scenario regarding the different types of co-creation. From the pretest, I found that the means were statistically different, which indicates the respondents understood the differences in co-creation for the various scenarios. Respondents understood when co-creation was not involved when presented with a no co-creation scenario. Respondents understood the difference between co-creation through personalization and co-creation through innovation when presented with a co-

creation through personalization scenario ( $t\text{-stat} = 1.932$ ). Respondents understood the difference between co-creation through innovation and co-creation through personalization when presented with a co-creation through innovation scenario ( $t\text{-stat} = 1.841$ ). After ensuring that the responses to the different scenarios were statistically different, I moved on to conducting the experiment. In the main study, there were also manipulation checks to ensure that the respondents understood the differences in co-creation type, brand, and product category.

The survey used to execute the experiment contained five sections: consent, distinction questions, familiarity questions, scenarios, and demographics. The consent section explained the survey to each respondent and required that they agreed to the terms before continuing on to the rest of the survey. The distinction questions section was used as a manipulation check for the “product category” portion of each scenario. In the scenarios, I used ice cream to represent the convenience product category and high quality watches to represent the specialty product category. The distinction questions were used to ensure that the respondents understood the fundamental differences in these products. Ideas tested in this section include whether the customer is concerned with price, if they think the product is expensive, if using the product is seen by others, if it is a frequent purchase, and if it is a planned or impulsive purchase.

The familiarity questions section was used as a manipulation check for the “brand” portion of each scenario. In the scenarios, I used two brands for each product category; one of which is a well-known brand and the other is an unknown brand. The two brands I used for ice cream were Ben & Jerry’s and Cold Cow, and the two brands I used for watches were Citizen and Fossil. I asked two questions to gauge the

respondents' familiarity with each brand. I asked each respondent to rank his or her familiarity and likeability with each brand on a seven-point scale from very unfamiliar to very familiar and strongly dislike to strongly like. This allowed me to test whether one brand for each category was generally known and one was generally unknown. I wanted to have a known and unknown brand represented in different scenarios in order to eliminate any bias that a respondent may have toward a particular brand. Ideally, by using an unknown brand, I can eliminate any brand halo effect that a brand might possess.



The scenarios section was the main part of the survey. As stated, I developed 12 different scenarios all containing various combinations of three co-creation possibilities (no co-creation, co-creation through personalization, and co-creation through innovation), two branding possibilities (known and unknown), and two product category possibilities (convenience and specialty). Each scenario gave a quick introduction of who the company was, what products the company sells, and the cost of the typical product (a pint of ice cream or a watch). From there, the scenario ended (for no co-creation) or continued in a second paragraph detailing the co-creation through personalization or co-creation through innovation situation. For example, one scenario

involved co-creation through innovation and Ben & Jerry's ice cream (a convenience product with a known brand) whereas another scenario involved no co-creation and a Citizen watch (a specialty product with an unknown brand). Please see the Appendix to read each scenario in its entirety. Each respondent saw two scenarios—one from each product category (one containing ice cream and one containing a watch). The scenarios were randomly assigned to the respondents by Qualtrics.

After reading the scenario, the respondents answered questions that acted as a manipulation check to ensure that they understood which co-creation tactic was being used in the scenario. They had to answer three simple questions on a seven-point scale of disagree to agree about whether, according to the scenario, they had a say in the creation of the product, whether they could personalize the product to make it unique to them, and whether the brand was creating a new product. After answering these questions, the respondents answered questions about their brand experience based on the scenario they just read. I used the statements developed by Nysveen (2014) that are connected with the five dimensions of brand experience and asked each respondent to rate their agreement with the statement on a seven-point scale ranging from strongly disagree to strongly agree. There were three statements for each of the five dimensions: sensory, affective, cognitive, behavioral, and relational. Following the brand experience questions, I asked a few questions that dealt with consumer behavior using a seven-point scale ranging from strongly disagree to strongly agree, such as if they would buy the product, if they would buy it at a premium (higher price), and if they felt loyal towards the brand. Please reference the Appendix to see all the brand experience and buying behavior questions. Lastly, I asked simple demographic questions including

gender (male or female) and year in school (freshman, sophomore, junior, or senior). All of this data allowed me to gain a deep understanding of how co-creation affects brand experience and customers' responses.

The survey was sent out to a marketing subject pool of TCU students for completion. A total of 288 responses were collected, and 280 of the responses proved viable for analysis. Each respondent answered questions about two scenarios; therefore all 12 scenarios received anywhere from 44 to 48 responses.

### Analysis Measures

Analysis of Variance (ANOVA) tests were used throughout the statistical analysis of the data. ANOVA is a collection of statistical models used to analyze the statistically significant differences among group means and their associated procedures. For the manipulation checks previously discussed, ANOVA tests were used to ensure respondents understood the difference between the co-creation levels, brands, and product categories. For the brand experience questions, each brand experience dimension was treated as a dependent variable. Since there were three statements associated with each dimension, I tested whether the three statements "hung" well together by testing the reliability by finding Cronbach's Alpha for each dimension. If Cronbach's Alpha was greater than 0.8, then I considered the statements to be reliable, and I created one collective variable to represent each dimension. The independent variables for the scenarios were the co-creation type, brand type, and product category. I used full factorial model ANOVA tests to measure the independent variables' impact on the dependent variables. Lastly, I also used ANOVA tests to measure the independent variables' impact on the other dependent variables that did not deal with brand

experience (questions related to buying behavior). Using these tests, I was able to develop results from the data.

## **Results & Interpretations**

The pretest and manipulation tests revealed that respondents understood the differences in the scenarios containing no co-creation, co-creation through personalization, and co-creation through innovation. Additionally, there was a statistically significant difference between the brands used for each product category. The respondents were not familiar with Cold Cow ice cream or Citizen watches, but they were familiar with Ben & Jerry's ice cream and Fossil watches. Lastly, respondents understood the differences between the convenience and specialty products. It was clear that convenience products were low cost, frequent purchases that did not require planning, and specialty products were expensive purchases that happened infrequently and are planned for in advance. From these conclusions, we can more confidently generalize these findings to separate categories of co-creation type, brand type, and product category.

Since a full factorial ANOVA model was used, results were generated for all main (M) effects and interactions (I); however, I will only be reporting the results involving co-creation. All other results are available upon request.

### **Sensory Brand Experience**

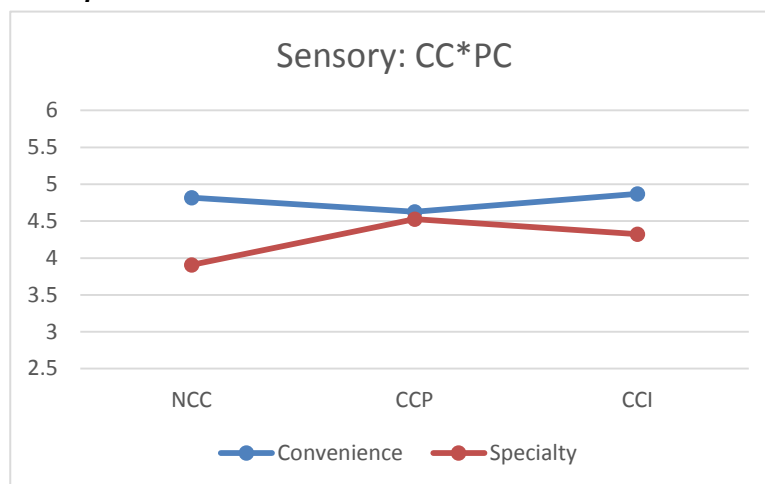
#### **Results**

For the sensory brand experience dimension, the overall model is significant ( $F_{11,541} = 4.924, p < .05$ ). The table below provides the hypothesis number, F statistic, and whether or not the hypothesis was supported.



<b>H</b>	<b>Effect</b>	<b>ANOVA Results</b>	<b>Finding</b>
1.1	M: CC	$F_{2,541} = 1.951$ $p > .05$	<u>Hypothesis not supported.</u> No statistically significant impact on sensory brand experience.
1.2	I: CC*B	$F_{2,541} = 2.690$ $p > .05$	<u>Hypothesis not supported.</u> No statistically significant impact on sensory brand experience.
1.3	I: CC*PC	$F_{2,541} = 4.805$ $p < .05$	<u>Hypothesis partially supported.</u> Together, co-creation and product category have a statistically significant impact on sensory brand experience. Sensory brand experience is statistically higher for convenience products than for specialty products for NCC and CCI, but not CCP. For specialty products specifically, there is a statistically significant difference in the sensory brand experience for NCC and CCP, and NCC and CCI, but no statistical difference between CCP and CCI. (See <b>Graph 1</b> )
1.4	I:CC*B*PC	$F_{2,541} = .069$ $p > .05$	<u>Hypothesis not supported.</u> No statistically significant impact on sensory brand experience.

**Graph 1**



## Interpretation

Overall, according to these results, convenience products have a higher sensory brand experience than specialty products—especially for no co-creation (Mean (C) = 4.820, Mean (S) = 3.907) and co-creation through innovation (Mean (C) = 4.870, Mean (S) = 4.323). However, this result may be attributed to the type of convenience and specialty products that I used in the scenarios. Considering I used ice cream as my convenience product and high quality watches as my specialty product, it makes sense that ice cream would generally have a higher sensory brand experience. Since ice cream is a product that people can taste, smell, see, and touch, it follows that there is a higher sensory brand experience when compared to watches which can only be seen and touched. Not only that, but when looking at only convenience products, it is clear that there is not a statistical difference in the sensory dimension with the different levels of co-creation. There is one interesting statistically significant difference for the levels of co-creation, though. Co-creation through personalization had an impact on the sensory brand experience for specialty products. However, this is the only real change attributed to the co-creation type. Therefore, the majority of the statistical significance in this finding can be attributed to the differences in product category rather than the differences in co-creation.

## Affective Brand Experience

### Results

For the affective brand experience dimension, the overall model is not significant ( $F_{11,541} = .974, p > .05$ ). Consequently, I can conclude that co-creation does not have an impact on affective brand experience.

## Interpretation

The affective brand experience dimension deals with whether or not the brand induced emotions or feelings in the respondents. Considering co-creation had no effect on this dimension, I can conclude that co-creation is not an activity that creates or induces feelings in customers. From this finding, it is clear that companies should not use co-creation to trigger an emotional response from customers.

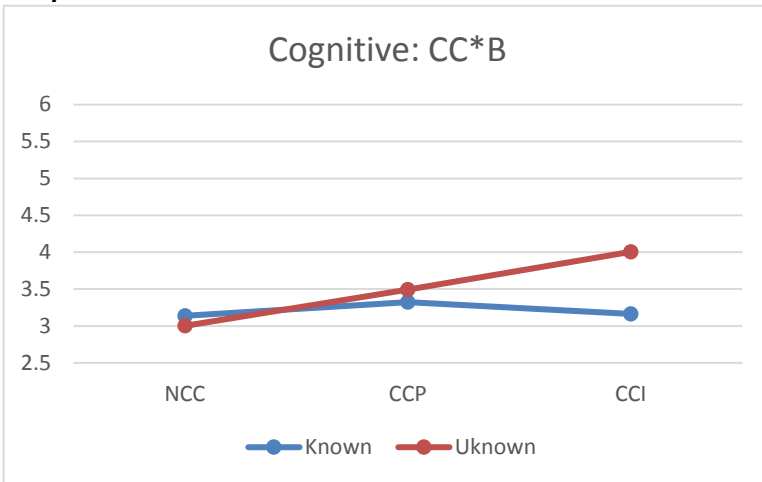
## Cognitive Brand Experience

### Results

For the cognitive brand experience dimension, the overall model is significant ( $F_{11,541} = 10.583, p < .05$ ). The table below provides the hypothesis number, F statistic, and whether or not the hypothesis was supported.

<b>H</b>	<b>Effect</b>	<b>ANOVA Results</b>	<b>Finding &amp; Support</b>
3.1	M: CC	$F_{2,541} = 5.969$ $p < .05$	<u>Hypothesis partially supported.</u> Co-creation does have a statistically significant impact on cognitive brand experience. No co-creation has the least impact, co-creation through personalization is second, and co-creation through innovation has the highest impact. CCI is statistically different from NCC (Tukey significant value of .002).
3.2	I: CC*B	$F_{2,541} = 5.498$ $p < .05$	<u>Hypothesis partially supported.</u> Together, co-creation and brand have a statistically significant impact on cognitive brand experience. Cognitive brand experience is statistically higher for unknown brands than for known brands. For unknown brands, there is a statistically significant difference between NCC and CCP, NCC and CCI, and CCP and CCI. (See <b>Graph 2</b> .)
3.3	I: CC*PC	$F_{2,541} = 3.420$ $p > .05$	<u>Hypothesis not supported.</u> No statistically significant impact on cognitive brand experience.
3.4	I:CC*B*PC	$F_{2,541} = .772$ $p > .05$	<u>Hypothesis not supported.</u> No statistically significant impact on cognitive brand experience.

**Graph 2**



### Interpretation

When looking at the two-way interaction, it is interesting to note how the cognitive brand experience differs for unknown and known brands when co-creation is involved. The unknown brand performs how I expected with co-creation through personalization (Mean = 3.491) being statistically higher than no co-creation (Mean = 3.002), and co-creation through innovation (Mean = 4.005) being statistically higher than co-creation through personalization (Mean = 3.491). This is the “pure” result without any brand bias. With this dimension, it is clear that knowing the brand did have an impact on the cognitive brand experience dimension. Focusing on the unknown or “pure” brand’s result is very interesting. The cognitive dimension of brand experience is statistically higher as the level of co-creation increases (goes from no co-creation to personalization to innovation). This result is understandable since it would take the most thought to innovate a product (come up with a new idea), and it would take more cognitive energy to personalize a product than to do nothing with it at all. From this

finding, it is clear that companies should use customer co-creation to engage customers with problem solving and mental stimulation.

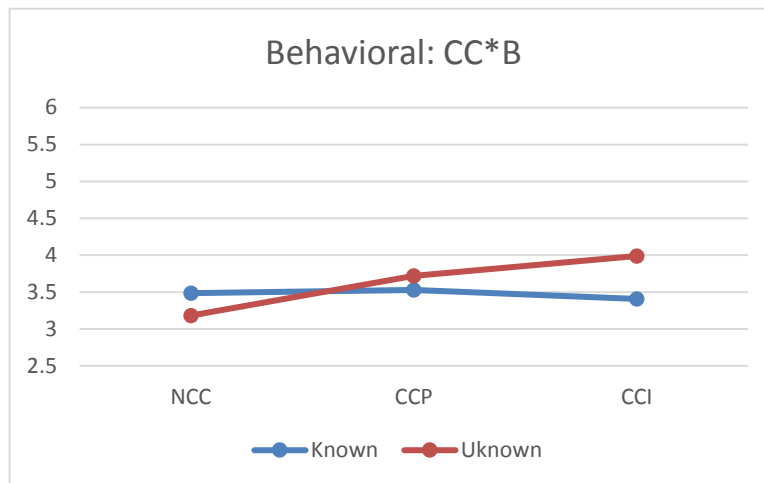
## Behavioral Brand Experience

### Results

For the behavioral brand experience dimension, the overall model is significant ( $F_{11,541} = 2.826$ ,  $p < .05$ ). The table below provides the hypothesis number, F statistic, and whether or not the hypothesis was supported.

<b>H</b>	<b>Effect</b>	<b>ANOVA Results</b>	<b>Finding &amp; Support</b>
4.1	M: CC	$F_{2,541} = 3.728$ $p < .05$	<u>Hypothesis partially supported.</u> Co-creation does have a statistically significant impact on behavioral brand experience. No co-creation has the least impact, co-creation through personalization is second, and co-creation through innovation has the highest impact. CCI is statistically different from NCC (Tukey significant value of .028).
4.2	I: CC*B	$F_{2,541} = 5.006$ $p < .05$	<u>Hypothesis partially supported.</u> Together, co-creation and brand have a statistically significant impact on behavioral brand experience. Behavioral brand experience is statistically higher for unknown brands than known brands for CCI. For unknown brands, there is a statistically significant difference in behavioral brand experience for NCC and CCP, and NCC and CCI, but no difference between CCP and CCI. (See <b>Graph 3</b> .)
4.3	I: CC*PC	$F_{2,541} = 1.850$ $p > .05$	<u>Hypothesis not supported.</u> No statistically significant impact on behavioral brand experience.
4.4	I:CC*B*PC	$F_{2,541} = .639$ $p > .05$	<u>Hypothesis not supported.</u> No statistically significant impact on behavioral brand experience.

**Graph 3**



### Interpretation

It is interesting to note that the unknown brand result or the “pure” result has a statistically significant difference between no co-creation (Mean = 3.182) and both types of co-creation (personalization (Mean = 3.719) and innovation (Mean = 3.989)), but co-creation has no significant impact on the known brand’s level of behavioral brand experience. Therefore, similar to the cognitive dimension, the affect that co-creation has on behavioral brand experience can be impacted by preconceived notions of a brand. The results of the unknown brand are more aligned with what is expected to happen. When co-creation is incorporated in the scenario, the behavioral dimension increases. The behavioral dimension has to do with whether the brand activates the customer. It makes sense that co-creation activates the customer more than if no co-creation activities take place. However, it is interesting to note that for behavioral brand experience, there is no statistical difference between co-creation through personalization and co-creation through innovation; either type of co-creation are

perceived to activate the customer the same amount. From this finding, it makes sense for companies to use customer co-creation to engage with customers through action.

## Relational Brand Experience

### Results

For the relational brand experience dimension, the overall model is significant ( $F_{11,541} = 1.852, p < .05$ ). The table below provides the hypothesis number, F statistic, and whether or not the hypothesis was supported. Interestingly, the overall model is significant because there were statistically significant findings related to brand and product category, but to not customer co-creation.

<b>H</b>	<b>Effect</b>	<b>ANOVA Results</b>	<b>Finding &amp; Support</b>
5.1	M: CC	$F_{2,541} = 2.473$ $p > .05$	<u>Hypothesis not supported.</u> No statistically significant impact on relational brand experience.
5.2	I: CC*B	$F_{2,541} = 1.548$ $p > .05$	<u>Hypothesis not supported.</u> No statistically significant impact on relational brand experience.
5.3	I: CC*PC	$F_{2,541} = .263$ $p > .05$	<u>Hypothesis not supported.</u> No statistically significant impact on relational brand experience.
5.4	I:CC*B*PC	$F_{2,541} = .003$ $p > .05$	<u>Hypothesis not supported.</u> No statistically significant impact on relational brand experience.

### Interpretation

The relational brand experience dimension has to do with whether the brand makes the customer feel like a part of a community and the brand family. Considering customer co-creation did not have any impact on the relational dimension, it is clear that companies should not use co-creation to develop or grow a relationship with customers.

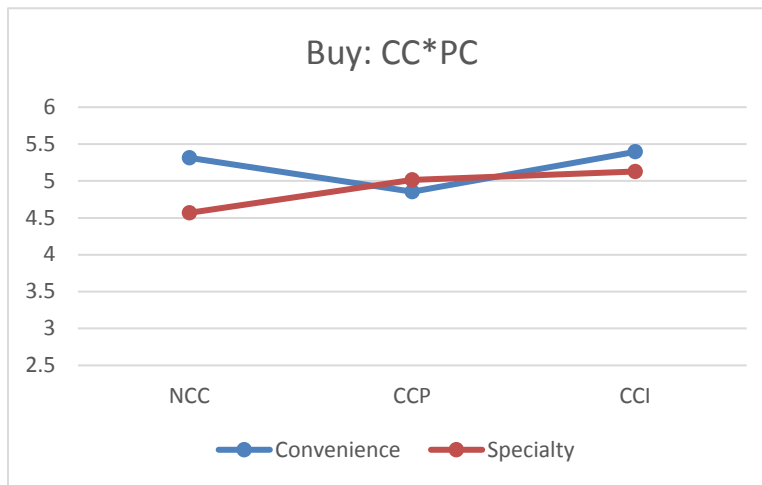
Willingness to Buy  
Results

For the dependent variable associated with the respondent’s willingness to buy the product in the scenario, the overall model is significant ( $F_{11,541} = 7.870$ ,  $p < .05$ ). The table below provides the hypothesis number, F statistic, and whether or not the hypothesis was supported.

#	Effect	ANOVA Results	Finding & Support
6.1	M: CC	$F_{2,541} = 3.061$ $p < .05$	<u>Hypothesis partially supported.</u> Co-creation does have a statistically significant impact on whether or not the customer will buy the product. CCI has the greatest impact on the likelihood to buy the product.
6.2	I: CC*B	$F_{2,541} = .033$ $p > .05$	<u>Hypothesis not supported.</u> No statistically significant impact on whether or not the customer will buy.
6.3	I: CC*PC	$F_{2,541} = 4.382$ $p < .05$	<u>Hypothesis partially supported.</u> Together, co-creation and product category have a statistically significant impact on whether the customer will buy the product. The likelihood to buy is statistically higher for convenience products than specialty products for NCC. For convenience products, there is a statistically significant difference in likelihood to buy between NCC and CCP, and CCP and CCI, but no difference between NCC and CCI. For specialty products, there is a statistically significant difference in likelihood to buy between NCC and CCP, and NCC and CCI, but no difference between CCP and CCI. (See <b>Graph 4.</b> )
6.4	I:CC*B*PC	$F_{2,541} = 1.050$ $p > .05$	<u>Hypothesis not supported.</u> No statistically significant impact on whether or not the customer will buy.



**Graph 4**



### Interpretation

For specialty products, the willingness of the customer to buy increases when either type of co-creation is involved—whether it is personalization or innovation (Mean (NCC) = 4.568), Mean (CCP) = 5.016, Mean (CCI) = 5.128). This finding makes sense considering specialty products are infrequent purchases that the customer plans for. If the customer is able to co-create their specialty product to make it exactly how they want; it is understandable that they would be more willing to buy it. Convenience products, on their other hand, show no positive results for the willingness to buy the product when co-creation is involved. When co-creation through innovation is incorporated with convenience products, the willingness to buy is not statistically different from when there is no co-creation involved, and when co-creation through personalization is involved, the willingness to purchase that convenience product actually goes down.

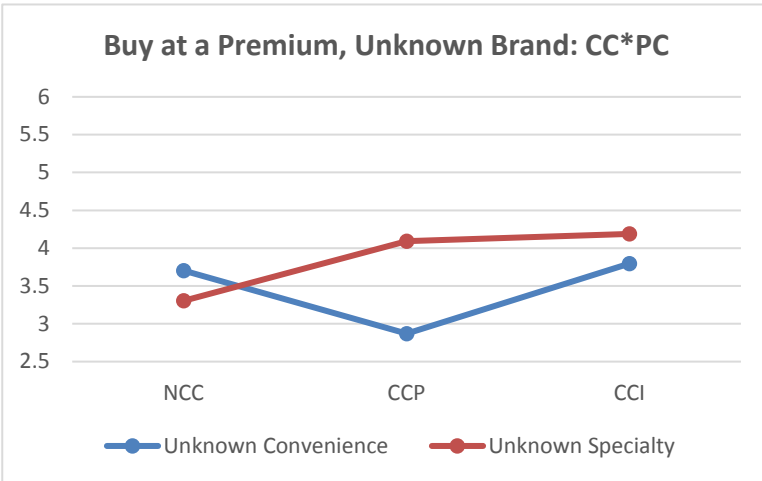
## Buy at a Premium

### Results

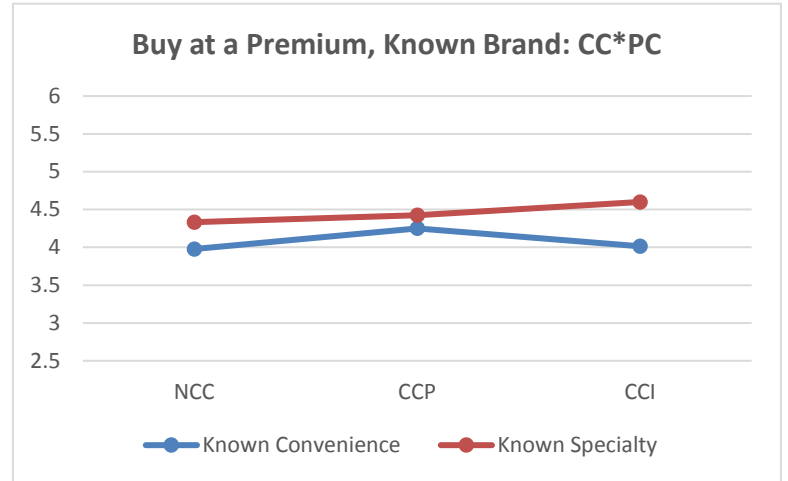
For the dependent variable associated with the respondent's willingness to buy the product in the scenario at a premium (higher price), the overall model is significant ( $F_{11,541} = 11.009$ ,  $p < .05$ ). The table below provides the hypothesis number, F statistic, and whether or not the hypothesis was supported.

<b>H</b>	<b>Effect</b>	<b>ANOVA Results</b>	<b>Finding &amp; Support</b>
7.1	M: CC	$F_{2,541} = 1.875$ $p > .05$	<u>Hypothesis not supported.</u> No statistically significant impact on whether or not the customer will buy at a premium.
7.2	I: CC*B	$F_{2,541} = 1.225$ $p > .05$	<u>Hypothesis not supported.</u> No statistically significant impact on whether or not the customer will buy at a premium.
7.3	I: CC*PC	$F_{2,541} = 2.243$ $p > .05$	<u>Hypothesis not supported.</u> No statistically significant impact on whether the customer will buy at a premium.
7.4	I:CC*B*PC	$F_{2,541} = 3.454$ $p < .05$	<u>Hypothesis partially supported.</u> The combination of co-creation, brand, and product category has a statistically significant impact on whether the customer will buy the product at a premium. Respondents are more likely to pay a premium for known convenience brands with CCP, known specialty brands with CCP or CCI, and unknown specialty brands with CCP or CCI. (See <b>Graph 5 &amp; 6</b> )

Graph 5



Graph 6



### Interpretation

Interestingly, there is a three-way interaction for this dependent variable. When looking at specialty products, it is interesting to note that the known and unknown brands perform the same way. For either type of brand, the respondent is willing to buy the specialty product at a premium when either version of co-creation is involved (personalization or innovation) (Mean (NCC, known) = 4.333, Mean (NCC, unknown) = 3.304, Mean (CCP, known) = 4.426, Mean (CCP, unknown) = 4.093, Mean (CCI, known) = 4.600, Mean (CCI, unknown) = 4.188). When looking at convenience products, it is interesting to note that the known and unknown brands act differently. For the known brands, respondents are more likely to pay more money for the product if they are able to do co-creation through personalization (Mean (NCC) = 3.978, Mean (CCP) = 4.250, Mean (CCI) = 4.021). However, for the unknown brand convenience product, the exact opposite happens; the respondents are less likely to pay more for the product if co-creation through personalization is involved (Mean (NCC) = 3.705, Mean (CCP) = 2.870, Mean (CCI) = 3.796). Therefore, the brand of a convenience product and

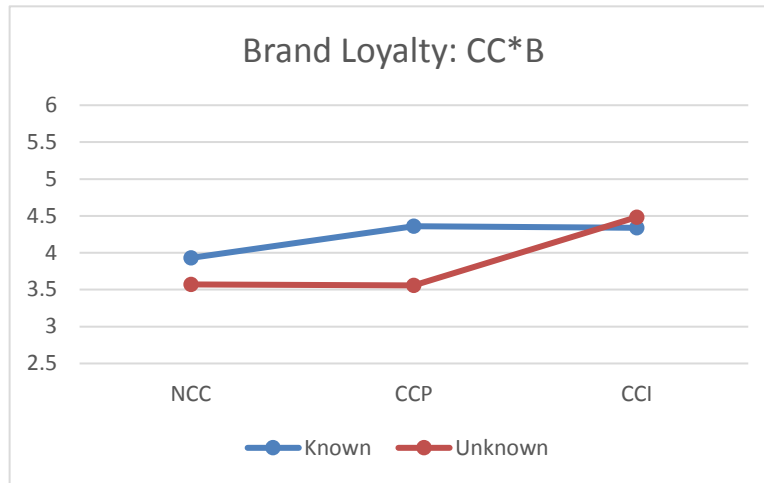
the co-creation type does have an impact on the customers' willingness to pay more for it—clearly, brand equity has an effect.

## Brand Loyalty Results

For the dependent variable associated with the respondent's brand loyalty, the overall model is significant ( $F_{11,541} = 3.060$ ,  $p < .05$ ). The table below provides the hypothesis number, F statistic, and whether or not the hypothesis was supported.

<b>H</b>	<b>Effect</b>	<b>ANOVA Results</b>	<b>Finding &amp; Support</b>
8.1	M: CC	$F_{2,541} = 7.701$ $p < .05$	<u>Hypothesis supported.</u> Co-creation does have a statistically significant impact on brand loyalty. CCI has the greatest impact on brand loyalty, CCP is second, and NCC is last. There's a statistically significant difference between CCI and NCC (Tukey significant = .000), and CCI and CCP (Tukey significant = .026).
8.2	I: CC*B	$F_{2,541} = 3.781$ $p < .05$	<u>Hypothesis partially supported.</u> Together, co-creation and brand have a statistically significant impact on brand loyalty. Either type of CC improves brand loyalty for known brands, and brand loyalty for an unknown brand dramatically increases when CCI is used. (See <b>Graph 7</b> .)
8.3	I: CC*PC	$F_{2,541} = 1.778$ $p > .05$	<u>Hypothesis not supported.</u> No statistically significant impact on brand loyalty.
8.4	I:CC*B*PC	$F_{2,541} = .646$ $p > .05$	<u>Hypothesis not supported.</u> No statistically significant impact on brand loyalty.

**Graph 7**



### Interpretation

For known brands, either version of customer co-creation improves the brand loyalty of the respondent (Mean (NCC) = 3.931, Mean (CCP) = 4.360, Mean (CCI) = 4.337). For unknown brands, co-creation through innovation has a dramatic effect on increasing the level of brand loyalty (Mean (NCC) = 3.570, Mean (CCP) = 3.558, Mean (CCI) = 4.483).

### Conclusions & Implications

#### Brand Experience

After considering all the effects of co-creation on the different dimensions of brand experience, there are some interesting conclusions that can be made. The affective and relational dimensions were not impacted by co-creation. Both of these dimensions are “emotions-based.” The affective dimension has to do with whether the brand induces feelings in the customer and the relational dimension has to do with whether the brand makes the customer feel like a part of the brand family. From this, I can conclude that companies should not use customer co-creation to induce feelings or

create a relational bond with their customers. On the other hand, both the cognitive and behavioral dimensions were similarly affected by customer co-creation. These two dimensions are both analytical and mentally stimulating. Cognitive has to do with whether the brand engages the customer mentally and behavioral has to do with whether the brand activates the customers. Since both of these are impacted by customer co-creation, I can conclude that companies should use customer co-creation to engage customers through thought and action.

### Buyer Behavior

The buying behavior implications are especially interesting for specialty products. Not only are respondents more willing to buy specialty products that allow them to co-create, but they are also willing to pay more money for these products. Co-creation did not have much of an impact on the willingness to buy convenience products; however, the one instance where customers would be willing to pay more money for a convenience product is when it was a known brand with customer co-creation through personalization involved. Lastly, brand loyalty increased for known brands with either version of co-creation, and it increased dramatically for unknown brands with customer co-creation through innovation. From these buyer behavior findings, it is important to note that companies have a lot to consider when deciding whether to execute customer co-creation. Brand positioning, product category, industry, and customers are all things that should be considered when evaluating this as a marketing option because they all have an impact on the effectiveness of customer co-creation.

### Bridging the Gap—Co-Creation through Personalization or Innovation?

From a company perspective, this study provides some general guidelines for what co-creation activities different types of companies should engage in. Since the

scenarios included various types of brands and product categories, I can draw on these findings to recommend certain co-creation actions for a variety of companies.

### Convenience Products

Companies that sell convenience products and have a well-known brand should mainly focus on customer co-creation through personalization (CCP). This conclusion is drawn from the fact that this combination was one that respondents said they would pay more money for. Not only that, but since convenience products are not as intentionally planned or expensive as specialty products, customers will not want to spend too much time creating a brand new product; they would rather have a personalized component to the convenience product. Because it is a known brand, they will want to be associated with it due to the positive social implications that would result. Because of these reasons, companies that sell convenience products with a well-known brand would benefit from executing customer co-creation through personalization.

Companies that sell convenience products that have an unknown brand should not use customer co-creation. There is no evidence from this research that supports using any kind of co-creation for convenience products of unknown brands. I believe this is due to the fact that customers are not as invested in convenience products, so they do not feel the need to take the time to make changes to them. Additionally, since it is an unknown brand, there is no social benefit to co-creating a product with the company. This research clearly showed that brand does have an impact on convenience goods, and co-creation is not the best option for an unknown brand in this product category.

## Specialty Products

Companies that sell specialty products should use either type of customer co-creation—co-creation through personalization (CCP) or co-creation through innovation (CCI). Whether or not the brand is known does not matter for specialty products—the most important factor is that the customer gets what he or she wants. This conclusion is drawn from the findings that customers were more willing to buy the specialty product if it had some type of co-creation with it, and customers were more willing to buy the specialty product at a premium if there was some type of co-creation with it.

Considering customers are taking the time to research and plan for the purchase of a specialty product and they are planning to spend a larger amount of money on the product, it makes sense that co-creation only enhances this buying experience. If the customer is able to get the exact specialty product that they want by participating in co-creation through personalization or co-creation through innovation, they will do it and will be willing to pay more money for it. The brand does not matter, because what the customer cares about is getting the product he or she wants. One reason a company may choose to do co-creation through innovation over co-creation through personalization is that it is proven to significantly improve brand loyalty. If that is a goal of the organization, co-creation through innovation may be the way to go. Either way, though, a company selling specialty products will benefit from using customer co-creation.

	<b>Convenience Product</b>	<b>Specialty Product</b>
<b>Known Brand</b>	Co-Creation through Personalization	Co-Creation through Personalization OR Co-Creation through Innovation
<b>Unknown Brand</b>	No Co-Creation	



When choosing whether co-creation is right for the company, it is not only important to consider the current brand positioning and product category, but it is also important to consider the customers, external environment, and marketing objectives of the company. Companies should think through how their customers would respond to this type of program and how it would impact the external environment of their industry. Additionally, it is also important to consider the marketing objectives of the program. If the company is trying to build a relationship or a bond with the customers, then this approach may not be the best one. Or, if the company's goal is to engage the customers through problem solving or action, this may be the perfect idea. There are many factors to consider before executing a customer co-creation program.

### **Limitations**

The main limitation of this study was the sample of respondents. Since I surveyed a subject pool of college business students at TCU, there was not much diversity in my sample. Diversity of background, thought, experience, and age were all missing from this subject pool of students. Another limitation is the type of convenience product I chose—ice cream. The fact that my convenience product and specialty product were so different could have impacted the results.

### **Future Studies**

There are a variety of opportunities for future study regarding this topic. This study looked at the effects of customer co-creation on brand experience of customers who actually participate in the co-creation process; however, it would be interesting to see the effects of co-created products on the customers that did not actually do the co-

creation. How does the fact that a product was co-created by another regular customer affect customers' willingness to buy the product? Are they more willing to buy a new product because the company offered the option of co-creation and they know that the product was made with the consumer in mind?

Another interesting avenue to explore would be to look into buyer's remorse of co-created products. My study focused on the "front end" of the co-creation process and how the customer feels after having the opportunity to co-create, but what about how they feel after they receive their co-created product? Are they satisfied with it? If it does not turn out how they envisioned, do they have buyer's remorse and regret doing the co-creation?

Lastly, future studies could be performed by simply "tweaking" this study. For example, rather than having the respondent read about a scenario where they co-create, it would be interesting to simulate the co-creation process with a fictitious online system to see how the results would differ. Additionally, doing the same experiment with multiple different convenience and specialty products would be an interesting investigation. This could test whether my findings regarding the convenience and specialty product categories hold true across the board.

## **Appendix**

### **Survey Scenarios**

#### *Convenience PC, No Co-Creation, Known brand*

Ben & Jerry's is a well-known ice cream brand that manufactures and distributes a wide variety of ice cream flavors. Some of Ben & Jerry's most popular flavors are Cookie Dough, Phish Food, Chocolate Fudge Brownie, and Chunky Monkey. Ben & Jerry's can be purchased at most grocery stores (Tom Thumb, Kroger, Wal-Mart, Target, Walgreens, Fiesta Mart, etc.). One pint of Ben & Jerry's ice cream can be bought for approximately \$5.00.

#### *Convenience PC, No Co-Creation, Unknown brand*

Cold Cow Ice Cream is a family-owned business based in Western Pennsylvania that is dedicated to providing customers with "super premium" ice cream. Some of Cold Cow's flavors are Cow Pies, Moocaccino, How Now Brown Cow, and Moo & Cookies. Cold Cow can be purchased in select states at major grocery stores and Cold Cow stores. One pint of the ice cream can be bought for approximately \$5.00.

#### *Convenience PC, Co-Creation through Personalization, Known brand*

Ben & Jerry's is a well-known ice cream brand that manufactures and distributes a wide variety of ice cream flavors. Some of Ben & Jerry's most popular flavors are Cookie Dough, Phish Food, Chocolate Fudge Brownie, and Chunky Monkey. Ben & Jerry's can be purchased at most grocery stores (Tom Thumb, Kroger, Wal-Mart, Target, Walgreens, Fiesta Mart, etc.). One pint of Ben & Jerry's ice cream can be bought for approximately \$5.00.

Ben & Jerry's wants to give its customers a personalized ice cream experience by providing them with the opportunity to personalize the ice cream container. You, as a customer, are able to send in a picture (of your family, friends, pets, etc.) to Ben & Jerry's to have an ice cream container with your unique picture on it.

#### *Convenience PC, Co-Creation through Personalization, Unknown brand*

Cold Cow Ice Cream is a family-owned business based in Western Pennsylvania that is dedicated to providing customers with "super premium" ice cream. Some of Cold Cow's flavors are Cow Pies, Moocaccino, How Now Brown Cow, and Moo & Cookies. Cold Cow can be purchased in select states at major grocery stores and Cold Cow stores. One pint of the ice cream can be bought for approximately \$5.00.

Cold Cow wants to give its customers a personalized ice cream experience by providing them with the opportunity to personalize the ice cream container. You, as a customer, are able to send in a picture (of your family, friends, pets, etc.) to Cold Cow to have an ice cream container with your unique picture on it.

*Convenience PC, Co-Creation through Innovation, Known brand*

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Ben & Jerry's wants to create a new ice cream flavor with the help of its customers. You, as a customer, are able to create a new ice cream flavor online and submit your unique idea to Ben & Jerry's. If your flavor wins, you will receive credit for creating the new Ben & Jerry's ice cream flavor by having your name on the packaging of every pint of your ice cream flavor.

*Convenience PC, Co-Creation through Innovation, Unknown brand*

Cold Cow Ice Cream is a family-owned business based in Western Pennsylvania that is dedicated to providing customers with "super premium" ice cream. Some of Cold Cow's flavors are Cow Pies, Moocaccino, How Now Brown Cow, and Moo & Cookies. Cold Cow can be purchased in select states at major grocery stores and Cold Cow stores. One pint of the ice cream can be bought for approximately \$5.00.

Cold Cow wants to create a new ice cream flavor with the help of its customers. You, as a customer, are able to create a new ice cream flavor online and submit your unique idea to Cold Cow. If your flavor wins, you will receive credit for creating the new Cold Cow ice cream flavor by having your name on the packaging of every pint of your ice cream flavor.

*Specialty PC, No Co-Creation, Known brand*

Fossil is a brand that prides itself on its commitment to American vintage inspiration—especially when designing their watches. Fossil is a global company that manufactures watches for men and women across the world. Fossil watches can be found at most high-end jewelers as well as their own Fossil stores. The average Fossil watch costs \$250.

*Specialty PC, No Co-Creation, Unknown brand*

Citizen Watches is a luxury watch brand that believes in cultivating a culture of positive change and ongoing evolution through their craft. Citizen is a global company that manufactures watches for men and women across the world. Citizen watches can be found at most high-end jewelers and department stores. The average price for a Citizen watch is \$250.

*Specialty PC, Co-Creation through Personalization, Known brand*

Fossil is a brand that prides itself on its commitment to American vintage inspiration—especially when designing their watches. Fossil is a global company that manufactures watches for men and women across the world. Fossil watches can be

found at most high-end jewelers as well as their own Fossil stores. The average Fossil watch costs \$250.

Fossil wants to provide its customers with the opportunity to personalize their watches. You, as a customer, are able to choose different colors of the different parts of the watch in addition to choosing if you want anything inscribed in the watch (your initials, for example).

*Specialty PC, Co-Creation through Personalization, Unknown brand*

Citizen Watches is a luxury watch brand that believes in cultivating a culture of positive change and ongoing evolution through their craft. Citizen is a global company that manufactures watches for men and women across the world. Citizen watches can be found at most high-end jewelers and department stores. The average price for a Citizen watch is \$250.

Citizen wants to provide its customers with the opportunity to personalize their watches. You, as a customer, are able to choose different colors of the different parts of the watch in addition to choosing if you want anything inscribed in the watch (your initials, for example).

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Fossil wants to create a new watch with the help of its customers. You, as a customer, are able to create a new watch design online and submit your unique idea to Fossil. If your watch design wins, you will receive credit for creating the new Fossil watch by having it named after you.

*Specialty PC, Co-Creation through Innovation, Unknown brand*

Citizen Watches is a luxury watch brand that believes in cultivating a culture of positive change and ongoing evolution through their craft. Citizen is a global company that manufactures watches for men and women across the world. Citizen watches can be found at most high-end jewelers and department stores. The average price for a Citizen watch is \$250.

Citizen wants to create a new watch with the help of its customers. You, as a customer, are able to create a new watch design online and submit your unique idea to Citizen. If your watch design wins, you will receive credit for creating the new Citizen watch by having it named after you.

## Scenario Questions

All of the scenario questions were asked on a scale of 1 (Strongly Disagree) to 7 (Strongly Agree). The brand experience questions were taken from Nysveen and Pedersen's study (2014).

### Sensory Brand Experience Questions:

The brand makes a strong impression on my senses.

Being a customer of the brand gives me interesting sensory experiences.

The brand appeals strongly to my senses.

### Affective Brand Experience Questions:

The brand induces my feelings.

I have strong emotions for the brand.

The brand often strongly engages me emotionally.

### Cognitive Brand Experience Questions:

I engage in a lot of thinking as a customer of the brand.

Being a customer of the brand stimulates my thinking and problem solving.

The brand often challenges my way of thinking.

### Behavioral Brand Experience Questions:

I often engage in action and behavior when I use the brand's services.

As a customer of the brand, I am rarely passive.

The brand activates me.

### Relational Brand Experience Questions:

As a customer of the brand, I feel like I am part of a community.

I feel like I am part of the brand's family.

As a customer of the brand, I never feel left alone.

### Buying Behavior Questions:

I would buy this product.

I would buy this product at a premium (higher price).

Based on the scenario provided, I feel loyal towards this brand.

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