

School of Marketing

Agonistic Behaviour in Luxury Branding

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**This thesis is presented for the Degree of
Doctor of Philosophy
of
Curtin University**

November 2018

Statement of Original Authorship

Declaration

To the best of my knowledge and belief this thesis contains no material previously published by any other person except where due acknowledgment has been made.

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university.

The research presented and reported in this thesis was conducted in accordance with the National Health and Medical Research Council National Statement on Ethical Conduct in Human Research (2007) – updated March 2014. The proposed research study received human research ethics approval from the Curtin University Human Research Ethics Committee (EC00262), Approval Number # **HRE2016-0198**.



Elaine Sutrisna

27 November 2018

Acknowledgements

PhD has been one hell of a rollercoaster ride! There were moments of ups and downs and I am eternally grateful to everyone who have supported me throughout these years.

First and foremost, I would like to express my sincere gratitude to my supervisors, Dr. Min Teah, Prof. Ian Phau, and Dr. Sean Lee for your continuous support of my PhD study. Without your guidance and immense knowledge, this journey would have been impossible. I am grateful to all your contributions of time, ideas and effort to make my PhD experience enjoyable and productive.

To my friends at Curtin University, Billy Sung, Siobhan Hatton-Jones, Anwar Sadat Shimul, Isaac Cheah, Aaron Lim, Israel Nai, Kevin Teah, Zorana Soldat, Wesley Lim, Emma Regolini: I am fortunate to work alongside you! The coffee/tea routine in the morning, all the late nights spent working together on various projects, the dinner outing we had together, have made this journey fun and have kept me sane throughout the whole PhD experience.

A special mention to my best friends, Jennifer Elias and Cindy Susanto. Thank you for putting up with my constant whining and complaints and for being my constant motivator(s) during the tough times. This PhD would be utterly unbearable without your company.

Last but certainly not least, my deepest gratitude and heartfelt thanks go out to my parents and my brother, William, for always believing in me from the start. You have always motivated me to keep going forward whenever I am under pressure and stress during my PhD. I would not have been able to complete my studies if it was not because of your patience, care and love.

Abstract

Purpose – Within the biological sciences, agonistic behaviour refers to a social behaviour, commonly observed in animals, related to competing over scarce resources (e.g. food, water, shelter and mate). Although it has not been empirically tested in the consumer behaviour context, humans have also been noted to exhibit similar competitive patterns of behaviour when it comes to scarce resources. This present research aims to extend the theory of agonistic behaviour from the field of biological sciences to consumer behaviour in the context of luxury branding. As underpinned by the theory of agonistic behaviour and supported by the Stimulus-Organism-Response (S-O-R) model, this research developed a theoretical framework to explain consumers' purchasing behaviour within the luxury branding industry, encompassing variables such as perceived scarcity, perceived competition, perceived value, purchase intention and self-efficacy.

The perception of scarcity was manipulated by introducing stimuli incorporating different heuristic scarcity cues (supply-driven, demand-driven, and control condition) to determine its effect on consumers' perception of product scarcity and consumer competition. Three studies set under different product category conditions (public, private or experiential service products) were done to validate the developed theoretical model and generalise the results using different product categories. Furthermore, an additional moderator (opinion leadership/seeking) was included in Study Three to examine the three-way interaction between perceived value, opinion leadership/seeking, and self-efficacy on purchase intention under the experiential product condition.

Design/Methodology/Approach – This research was conducted in three phases. The first phase involved the conceptualisation of the theory of agonistic behaviour by systematically reviewing the present literature extensively and drawing the parallels between animals and human behaviour when competing for scarce resources. As underpinned by the theory of agonistic behaviour and supported by the S-O-R model, the second phase involved the development of a theoretical framework for the empirical evaluation of the theory of agonistic behaviour in the consumer context through a quantitative approach. Based on the developed framework, the third phase

involved testing and validating the framework across three studies. The first study aimed at building the theory of agonistic behaviour within the consumer behaviour context by focusing on publicly consumed luxury-branded products. The second study aimed at validating and generalising the developed framework by testing on privately consumed luxury-branded products. The last study aimed at generalising the developed framework to luxury experiential service products and testing an additional moderator (opinion leadership/seeking).

A self-administered questionnaire was designed using established scales and non-fictional luxury brands were utilised as a stimulus to create a realistic scenario in each of the studies. Data was collected in Australia using Qualtrics consumer panel in which screening questions were put in place to ensure that the respondents are luxury consumers. One-way ANOVAs and Structural Equation Modelling (AMOS 25) were used to analyse the data.

Findings & Implications – The results showed that the proposed theoretical model is applicable in explaining the consumer behaviour in a luxury-branding context. The development of the framework was useful in identifying the influence of heuristic scarcity cues on consumer perception and behaviour towards luxury-branded products/services. The use of S-O-R model in supporting the theory of agonistic behaviour has broadened the application of S-O-R model to explain scarcity effect and consumers' perceived competition.

The results showed that perceived scarcity had no direct influence on product/service valuation, whereas perceived competition was found to have a direct influence. As such, these results demonstrated the importance of perceived competition in determining the perceived value of luxury-branded products and services; the influence of perceived consumer competition should not be ignored and need to be examined further to provide insights regarding to its implication. Managerially, the results provided insights to luxury brands managers on the role of perceived consumer competition. Despite previous findings highlighting the importance of scarcity perception in determining product value, this research showed that consumers attribute higher value to a product when it is highly sought after by others (when there is higher perceived competition for the product amongst consumers). Acquiring a product that

is wanted by many other consumers provides a satisfying feeling and a sense of accomplishment for the consumer, and, thus, it is perceived to be more valuable.

Moreover, the results developed an understanding of how consumers respond to the different product categories presented with different heuristic scarcity cues in a luxury branding context. The results found that some luxury consumers chose to avoid luxury brands presented with demand-driven scarcity cue as it is seen to be too popular and mainstream in the market. Consumers with greater self-efficacy (e.g. financial ability, knowledge, etc.) are willing to sacrifice more money to purchase products presented with supply-driven scarcity cues as compared to products presented with demand-driven scarcity cues. Hence, although there was no direct influence between perceived scarcity and perceived value, the results demonstrated that scarcity cues are essential for luxury-branded products. Managerially, these results shed a light on the importance of scarcity effect in maintaining brand exclusivity and rarity. The results also found that opinion leaders with high self-efficacy are more likely to choose restaurants which offer limited seats. On the other hand, opinion seekers are more likely to choose services which are scarce due to high demand as it indicates quality and provides them with a sense of belongingness. Both self-efficacy and opinion leadership/seeking provide insights into the different type of consumers and their choices towards luxury-branded products/services communicated using heuristic scarcity cues.

Originality/Value – To the best of the author’s knowledge, this research is one of the first that conceptualised the theory of agonistic behaviour within consumer behaviour, in order to understand the basic concept of how consumers compete for scarce resources, specifically in the luxury branding context. In addition, the study is one of the first to consider the option of consumers reacting submissively at a purchase decision and preferring not to purchase the elite brand, despite perceiving it as scarce and valuable. This research challenges the assumptions of scarcity research by demonstrating that scarcity effect may not always lead to purchase intention of luxury-branded products/services. Instead, this depends on the type of scarcity cue being portrayed and individuals’ personal factors.

Keywords – Scarcity, Consumer Competition, Theory of Agonistic Behaviour, Consumer Behaviour, Luxury Brands

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CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

In one of the most competitive places on Earth, the predators are ready to hunt their prey. They travel far until they find the right type of prey. And there it is, the perfect prey... Only one prey is in sight, but there is another predator eyeing its prize. Not to mention that this species of predator does not share its prey with anyone. The predators are not only intimidating, they are prepared to battle with one another to take the prized prey. Chaos escalates quickly when one of the females engage in a fight with a group of juveniles for the prey. It is a matter of take or die...

Though the story seems to demonstrate a case of two lions in the wild fighting over a zebra's fresh carcass, it is actually a young woman gripping onto a 40in Polaroid TV as a group of young teens tried to wrestle it away from her during Black Friday sales (Glanfield, Cockroft, & Smith, 2014). This retail ritual is designed to evoke a sense of urgency as there is a limited number of products for a limited amount time (Nichols, 2010). Of course, shoppers behaving 'like animals' have been likened to scenes in 'a war zone' (Glanfield et al., 2014). A shopper even confirmed, "People were behaving like animals, it was horrible!" (Neate, 2014). A male customer was reported hitting another shopper in order to get a crock pot, until both of them were dragged outside the store for creating chaos (Weaver, 2017). Even this year, thousands of old-school shoppers were still seen fighting for Black Friday Sales items and enjoying the adrenaline and fulfilment of chasing a bargain (RT, 2018). When the product in question is scarce, indeed humans often behave like animals (Figure 1.1).

Figure 1.1: Human vs. Animal Behaviour Fighting over Resources



Fighting over a TV during Black Friday (BBC News 2014)

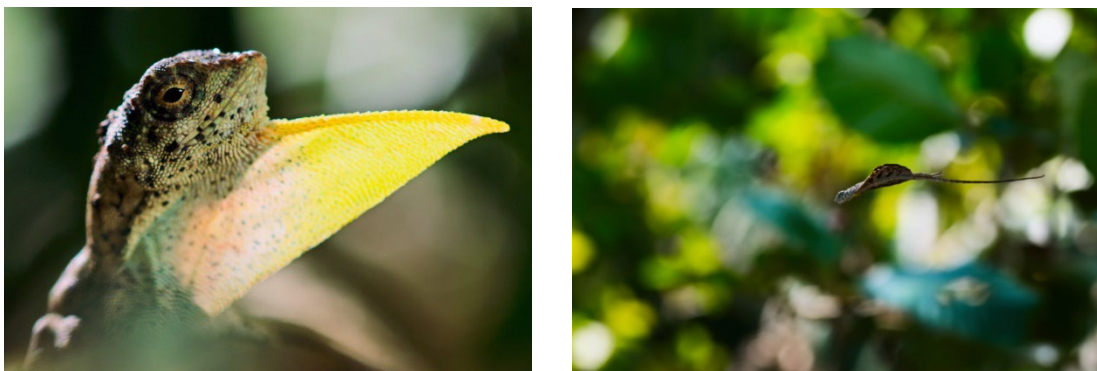


Fights between two dominant male lions (Express 2016)

Evolutionary psychologists have documented that individuals will become more competitive and behave aggressively when there is a shortage of the desired resource (Brownfield, 1986; Cialdini, 2009; Griskevicius et al., 2009). According to the study of evolutionary psychology, competition is an animal instinct that is hardwired in the human brain which results in actions to support them towards their survival and self-defence (Kohn, 1992). Indeed, human beings do not act in the same way to scare their competitors away like animals do, yet parallels may be observed in how humans and animals compete for resources.

When animals compete for resources, instead of immediately fighting one another, they often display species-specific behaviours that aim to threaten and scare the opponent away, avoiding physical contact. The competition in animals of the same species are highly organised and faithfully followed by all members of the species and almost never violated (Eisner & Wilson, 1975). This social behaviour is known as agonistic behaviour. There are three stages involved in agonistic behaviour. The first stage is **threat**. In this stage, animals perform a species-specific behaviour, vocalisation, or postures that signal the intention to display aggression (McGlone, 1986). For instance, when Draco lizards compete for a territory to settle down, they will send a warning sign using their flap underneath their chin to scare the opponent (generally performed by the resident owner towards the visitor – Figure 1.2; first picture). The opponent then has a choice to fight (second stage: **aggression**) or flee (third stage: **submission**). As seen in Figure 1.2; second picture, the opponent chooses to flee by soaring away from the enemy. That behaviour is identified as submissive behaviour. Submission stage is defined as species-specific behaviour, vocalisation, odor, or postures which signal reduction of further attack (McGlone, 1986).

Figure 1.2: Agonistic Behaviour in Draco Lizards



Planet Earth II (BBC One 2016)

Similarly, in consumer behaviour context, the scarcity of the product is a form of a threat to the consumers as they believe only a very limited number of product available and may not be sufficient to satisfy product demand. In this case, some may go to extreme length in order to acquire the item (aggression stage), while others may choose to delay their purchase or buy alternative products (submission stage). Although in most cases, unlike animals, individuals do not physically attack each other in order to get the desired products, the outcome remains the same. Those who display aggressive behaviour and refuse to submit are more likely acquire the desired products, while those who choose to submit do not acquire the product. As such, in the consumer context, the aggressive behaviour is conceptualised as acquiring the desired product, while submissive behaviour is conceptualised as not acquiring the product or may choose to purchase alternative product.

Apple is a classic example of a brand that has successfully created the illusion of scarcity for marketing and publicity purposes. As seen in Figure 1.3 (first picture), in most of the new iPhone product launch, Apple fanatics will wait in line outside the Apple store even before the store opens (Price, 2017). A few are even willing to pay more by hiring someone else to wait in line for them in order to be the first to get their hands on the new iPhone (Tran, 2016). On the other hand, some may choose to wait for a few weeks to get the new iPhone, while others may choose to purchase alternative phone brands (Figure 1.3, second picture).

Figure 1.3: iPhone X Launch Queue and iPhone Mimic Brand



iPhone X Launch (Pilat, 2017)



Asus Zenfone 5 and Apple iPhone X (Savov 2018)

An industry which has long implemented the perception of scarcity and exclusivity as their main persuasion strategy is the luxury branding industry. Product scarcity has been and always will be the true essence of a successful luxury brand (Kapferer, 1998; Vigneron & Johnson, 2004). Studies within the scarcity literature have previously

mentioned that scarce products are perceived to be more expensive and have better quality as compared to non-scarce products (Atlas & Snyder, 1978; Chen & Sun, 2014; Fromkin, Olson, Dipboye, & Barnaby, 1971; Worchel, Lee & Adewole, 1975; Wu, Lu, Wu, & Fu, 2012). As such, consumers are more likely to perceive the products as more valuable and desirable; motivating them to purchase the product (Chen & Sun, 2013; Lynn, 1991, 1992a, 1992b; Szybillo, 1975).

Hermès is a classic luxury brand example that has long been known for building up demand for its Birkin bags by maintaining its exclusivity (Beauloye, 2018). It is almost impossible to obtain a Birkin bag directly from the store and the waiting list can stretch up to six years. Many would have to settle for pre-owned Birkin handbag or have to bid through auction to get their hands on the Birkin bag. It comes as no surprise when the limited edition of the Hermès' Himalaya Birkin bag was sold at an auction for \$380,000, breaking the record to become the most expensive handbag in the world (Chen, 2017).

In short, as an effect of the marketer-induced scarcity strategies (e.g. an auction, a massive product sale, and a new limited edition product launch), consumers have been observed to demonstrate agonistic behaviour traits. Therefore, this phenomenon poses these questions: How similar are human beings to animals when in competition for scarce resources? How can the theory of agonistic behaviour be conceptualised into the field of marketing? How does scarcity effect in a luxury branding context influence agonistic behaviour in consumers?

1.2 RESEARCH ISSUE/ JUSTIFICATION OF THE STUDY

Luxury brands are highly sorted after due to the status and style they can provide consumers (Forbes, 2014). Consumers who can afford luxury do not only get a fine product, but also the pleasure of knowing that many cannot afford to pay for the products they purchased (Templeman, 2013). Owning luxury brands is one's method of making a statement and to fit in (Arora, 2013). Therefore, exclusivity has always been connected to luxury brands. Although brands like Hermès and Chanel have maintained their exclusivity and prestige amongst luxury consumers, numerous other luxury brands are struggling due to brand dilution.

The number of luxury consumers has increased significantly over the past 20 years (Bain & Company, 2018), and luxury brands have already attracted customers across different social classes (Yeoman & McMahon-Beattie, 2014). Despite a 60 percent rise in the cost of luxury goods in the past decade, luxury goods are attracting tens of millions of new customers every year (Daily Mail, 2013). Owning a luxury brand is no longer a status symbol and personal identity, and more affluent consumers are wishing to stand out among their counterparts. As a result, many affluent consumers have abandoned their favourite luxury brands and tend to prefer other brands which are perceived to be more exclusive.

In light of this, luxury companies began producing limited edition products at a relatively higher price to create the perception of scarcity and exclusivity in consumers' mind (Arora, 2013). Prior studies have suggested that limited edition products make consumers feel special, valuable and unique (Aggarwal, Jun & Huh, 2011; Gierl, Plantsch, & Schweidler, 2008) which, in turn, lead to higher product evaluation (Catry, 2003; Fionda & Moore, 2009).

Interestingly, a study by Gierl and Huettl (2010) have found that limited edition products are not always perceived to be more attractive and found that the effectiveness of heuristic scarcity cue is highly dependent on the product type. According to their findings, supply-driven scarcity cue (e.g. limited edition) is more effective for publicly consumed (conspicuous) products; in contrast, demand-driven scarcity cue (e.g. 'only a few items left') is more effective for privately consumed (unconspicuous) products (Gierl & Huettl, 2010). Although both supply-driven and demand-driven scarcity cues indicate product shortage, the two portray different

signals and benefits towards the user. Supply-driven scarcity cue implies that there is a shortage in the product distribution causing limited number of potential owners of a product from the beginning of the market process (adapted from Aguirre-Rodriguez, 2013; Gierl & Huettl, 2010). Since publicly consumed products are usually more conspicuous by nature, which aim to signal social status and distinguish oneself from others (Leibenstein, 1950), supply-driven scarcity cue is a better heuristic cue for publicly consumed products. On the other hand, demand-driven scarcity cue is a promotional cue that indicate pervasive consumer interest in a product and can be communicated with phrases like “due to high demand, nearly sold out” or “already 80% of our stock sold” (adapted from Gierl & Huettl, 2010; Wu & Lee, 2016). Since privately consumed products are generally used out of public view, consumers are less likely to purchase a limited edition of privately consumed products. However, when it is promoted as ‘nearly sold out’, consumers are more likely to view the product more positively as it indicates that the product is highly in demand, and, thus, higher quality. This finding has highlighted the importance of taking into account the different product type (e.g. publicly consumed, privately consumed, and experiential services) when investigating the influence of scarcity cues and should not be ignored.

Nonetheless, it is important to note that the study by Gierl and Huettl (2010) was not conducted within the luxury branding context. Considering non-luxury and luxury products have different characteristics, the effect of heuristic scarcity cues may result in different outcomes. To date, limited studies have identified the effectiveness of heuristic scarcity cues on the different luxury branded product categories. This study is among the first to use different product categories with an aim of better defining the boundary conditions where existing explanations may or may not hold. Is it effective to promote luxury brands (publicly consumed, privately consumed, or experiential service products) with the supply-driven scarcity cue (e.g. limited edition products)? Should privately consumed luxury brands used demand-drive scarcity cue (e.g. “nearly sold out”) to promote their products? Would the same outcome be achieved when it comes to luxury experiential service purchases?

To understand consumers response and behaviour towards product scarcity, this study looks at the most fundamental concept on how individuals respond to resource scarcity, specifically based on the theory of agonistic behaviour. Although scholars have integrated the study of biological sciences to make sense of human behaviour

and evolutionary theory (e.g. Confer et al., 2010; Cummins, 2005; Saad, 2007), little to no previous research (at the point of this study) have integrated the theory of agonistic behaviour in understanding consumer competition for scarce resources, even when it is not necessary for survival. As such, this study aims to extend the theory of agonistic behaviour from biological sciences to marketing within the luxury branding context. A theoretical framework is to be developed by including individuals' perception of scarcity and competition into the model. Individuals' decision to be aggressive or submissive will also be included in the framework to provide a holistic understanding of consumer purchase intention when they are exposed to desired luxury branded products promoted as scarce. To date, the negative effect of scarcity cues is not well understood in theory; little to no empirical evidence have considered the 'submissive behaviour' as a consequence of marketer-induced scarcity strategies, specifically in the context of luxury branding. As such, this study contributes by addressing the research gaps within the scarcity literature in the luxury branding context.

This study will also include individuals' self-efficacy as the moderator between value and purchase intention. According to the theory of agonistic behaviour, one of the major factors influencing the decision to be aggressive or submissive is body size and physical attributes. Animals with a large body size and superior body attributes are more likely to be aggressive and win the fight, while the smaller ones tend to submit and flee (Schuett, 1997; Wise & Jaeger, 1998). In the consumer context, aggressive behaviour and winning results are less likely to be determined by one's body size and physical attributes, but are likely to be determined by their perceived self-efficacy. Self-efficacy is the individual's perceived ability and available resources such as financial, knowledge, and time resources to execute the task. Self-efficacy is then conceptualised to represent body size and physical attributes in the consumer context. Although self-efficacy is an apparent motivation and influencer of purchase decisions, the role of consumers' self-efficacy in decision-making contexts tends to be overlooked (e.g. Amatulli & Guido, 2010; Bian & Forsythe, 2012; Kim & Ko, 2012; Knight & Kim, 2007; Hung et al., 2011). This study investigates the influence of self-efficacy across different product categories within the luxury branding context with the intent of redefining the boundary conditions for the relationship between self-efficacy and purchase intention in different product categories.

Besides self-efficacy, opinion leadership/opinion seeking are also expected to influence the relationship between perceived value and purchase intention. Based on the animal social behaviour literature, agonistic behaviour determines the rank of animals within the ecosystem (Deag, 1977). Winners become dominant; they have priority access to resources, social status, freedom of movement, and reproductive success (Popp & De Vore, 1979). On the other hand, the losers are subordinate and they are forced to drive away (King, 1973). Similarly, in a consumer context, opinion leaders assert dominance in order to obtain high influence within a social setting (Berger et al., 1980), while opinion seekers generally have lower self-esteem and are more attentive to social comparison information (Pornpitakpan, 2010). As such, in the consumer context, the dominant is conceptualised as opinion leaders while the subordinate is conceptualised as opinion seekers. Despite numerous research on opinion leadership and opinion seeking in fashion (e.g. Goldsmith & Clark, 2008; Bertrandias & Goldsmith, 2006; Phau & Lo, 2004; Workman & Johnson, 1993), limited studies have investigated its impact towards purchase intention of luxury experiential services. Particularly in the services industry, the role of opinion leaders is highly important. Service quality is difficult to evaluate and individuals often rely on other consumers' reviews and testimonials. Hence, this study also aims to empirically test the influence of opinion leading/seeking motivations as the boundary condition towards purchase intention, specifically in the context of luxury experiential services.

1.3 RESEARCH GAPS AND OBJECTIVES

1.3.1 *Research Gaps*

A review of the literature suggests eight key research gaps which will be addressed in the current study. These gaps in the literature are summarised as follows:

GAP 1: There are limited research and theories that explain how heuristic scarcity cues influence consumer purchase behaviour, specifically within a luxury branding context.

GAP 2: There is limited empirical research that applies the theory of agonistic behaviour as an underpinning framework to understand consumer purchase behaviour in a luxury branding context.

GAP 3: There is limited empirical research which evaluates the most effective heuristic scarcity cues for the specific product types in a luxury branding context.

GAP 4: There is limited empirical research that measures the influence of the heuristic scarcity cues on consumers' perceptions of product scarcity and competition in a luxury branding context.

GAP 5: There is limited empirical research that evaluates the role of consumers' perceptions of scarcity and competition among buyers in the valuation of luxury brands.

GAP 6: There is limited empirical research that investigates consumers' submissive behaviours in a luxury brands context.

GAP 7: There is limited empirical research that investigates the influence of consumers' self-efficacy on purchase intention in a luxury branding context.

GAP 8: There is limited empirical research that investigates the influence of opinion leadership and opinion seeking on consumers' purchase intention in a luxury experiential purchase context.

1.3.2 Research Questions and Objectives

Based on these identified research gaps, the following research questions and objectives are proposed for the current study:

RQ1: How does theory of agonistic behaviour explain consumer behaviour when purchasing luxury brands? (Gaps 1, 2)

RO1: To conceptualise the theory of agonistic behaviour into marketing by identifying equivalents between two different disciplines, biology and marketing, using real-life marketing examples.

RO2: To develop a theoretical framework that explains the consumer purchase behaviour within the luxury branding industry as underpinned by the theory of agonistic behaviour.

RQ2: How do heuristic scarcity cues influence consumers' perception and behaviour of luxury-branded products or services? (Gaps 3, 4, 5, 6)

RO3: To determine the relative effects of the different heuristic scarcity cues (supply-driven, demand-driven, and control condition) on the perception of product scarcity and competitiveness in a luxury branding context for a specific product type displayed (public, private or experiential products).

RO4: To evaluate the influence of perceived competition and scarcity on perceived value which, in turn, influences purchase intention in a luxury branding context for a specific product type displayed (public, private or experiential products).

RQ3: How do self-efficacy and opinion leadership/seeking moderate the relationship between consumers' perception of value and purchase intention for luxury-branded products or services? (Gaps 7, 8)

RO5: To examine the role of self-efficacy in moderating the relationship between perceived value and purchase intention in a luxury branding context for a specific product type displayed (public, private or experiential products).

RO6: To investigate the three-way interaction between perceived value, opinion leadership/seeking, and self-efficacy on purchase intention for the luxury experiential service product.

1.4 THEORETICAL UNDERPINNINGS

The theory of agonistic behaviour and the S-O-R model underpin this research; this thesis is substantiated by several supporting theories – psychological reactance theory, commodity theory, bandwagon theory, theory of uniqueness, social cognitive theory, and social comparison theory. These theories are briefly explained here and will be discussed in chapter 3 in detail.

The theory of agonistic behaviour is a social behaviour related to fighting in animals, which includes threat, attack, defense and escape (Scott & Fredericson, 1951). Based on the theory, competition between individuals of the same species are highly organised and civilised which are followed faithfully and almost never violated; it hardly causes death or even serious injury to either parties (Eisner & Wilson, 1975).

The S-O-R model is a framework that was used to provide insights on the impact of merchandising on perceptions of store brand quality (Mehrabian, 1980; Mehrabian & Russell, 1974). According to the framework, the external environment contains stimuli (S) affect organisms (consumers; O) and result in approach or avoidance response (R) behaviours (Mehrabian & Russell, 1974). The framework has since been applied in different contexts, including the atmospheric qualities of online retailing (Eroglu, Machleit, & Barr, 2005), involvement (Arora, 1982), impulsive purchasing behaviour (Chang, Eckman, & Yan, 2011), and retail environment (Buckley, 1991; Donovan & Rossiter, 1982).

Psychological reactance theory states that whenever individuals perceive that their freedom to choose has been threatened, state reactance occurs. They are more likely to behave negatively and motivated to regain their freedom (Brehm, 1966).

Commodity theory states that scarcity enhances the value and desirability of commodities that can be possessed, is useful to its possessor, and is transferable from one person to another (Brock 1968). However, the theory does not specify why scarcity enhances value, but bandwagon and uniqueness theory were able to explain the increased value (Van Herpen, Pieters & Zeelenberg, 2009).

Bandwagon theory refers to “the extent to which the demand for a commodity is increased due to the fact that others are also consuming the same commodity” (Leibenstein, 1950, p189). Consumers may prefer popular products because it signals

quality, in turn, reduce purchase risk (Caminal & Vives, 1996) and allow the owners to conform to others (Berger & Heath, 2007; Escalas & Bettman, 2005).

The theory of uniqueness states that consumers may have a need to be moderately dissimilar from others, which can be fulfilled through the consumption of unique products/services (Fromkin, 1970; Snyder & Fromkin, 1977). In this case, the demand of consuming scarce products increases because others are not consuming the same product (Leibeinstein, 1950).

Social cognitive theory states that there is a functional dependence between a person, environment and behaviour (Bandura, 1982, 1986, 1988, 1997). An individual is actively learning during the social interaction and able to change their behaviour due to their personal sense of control (Bandura, 1986).

Social comparison theory states that individuals have the tendency to compare themselves, both upward (unfavourable) and downward (favourable) in order to learn their social standing and to obtain self-knowledge (Brewer & Weber, 1994; DiMaggio, 1977; Hyman, 1942; Kimmelmeier & Oyserman, 2001; Zander & Havelin, 1960).

1.5 KEY CONCEPTS AND DEFINITIONS

Several concepts and definitions are included in this research for the conduct of each study. The conceptual definition for the theory of agonistic behaviour is elaborated in Chapter Two. Conceptual definitions of the other constructs in the empirical model are obtained from existing literature and outlined in Chapter Two and Three. Each conceptual definition is identified as follows.

Threat stage is the first stage of agonistic behaviour. In this stage, animals perform species-specific vocalisations, postures, facial, and body movements that signal the intent to display aggression (McGlone, 1986).

Aggression stage is the second stage of agonistic behaviour and may be avoided if one decided to submit without going through the aggression stage. Aggression is defined as those species-specific behaviors associated with attack (McGlone, 1986).

Submission stage is the last stage of agonistic behaviour, which is usually exhibited following either a threat or an aggressive interaction. Submission includes species-specific behaviours that signal non-aggressiveness and reduction of further attack (McGlone, 1986).

Supply-driven scarcity cue, such as “limited edition” and “while supplies last”, implies that there is a shortage in the product distribution causing limited number of potential owners of a product from the beginning of the market process (adapted from Aguirre-Rodriguez, 2013; Gierl & Huettl, 2010).

Demand-driven scarcity cue is a promotional cue that indicate pervasive consumer interest in a product and can be communicated with phrases like “due to high demand, nearly sold out” or “already 80% of our stock sold” (adapted from Gierl & Huettl, 2010; Wu & Lee, 2016).

Publicly consumed products are items that are generally consumed in public view and are easily identified by others. The items include handbags, watches, and jewelry (adapted from Bearden & Etzel, 1983; Childers & Rao, 1992; Gierl & Huettl, 2010).

Privately consumed products are items that are generally consumed in in private setting and are not observed by others. The items include undergarment, socks, home furniture, (adapted from Bearden & Etzel, 1983; Gierl & Huettl, 2010).

Experiential services are defined as “those made with the primary intention of acquiring a life experience: an event or series of events that one lives through” (Van Boven & Gilovich, 2003, p1194).

Elite-level luxury brands are the top of the top luxury hierarchy – generally are bespoke and not accessible to the mass market – that serve as the benchmark of highest exclusivity and best quality (Rambourg, 2014). The elite brand is also treated as the desired luxury-branded items for the respondents.

Alternative brands are brands that serve as a close substitute for the first brand choice, such as mimic brands and counterfeits of luxury-branded products (adapted from Ang et al., 2001; Teah, 2010). This research focuses on the mimic brand as the alternative option for consumers who choose to ‘submit’.

Perceived scarcity refers to the perceived or experienced product shortage within the store (Byun & Sternquist, 2012).

Perceived competition is defined as an individuals’ interpretation of the intensity of competition and demand of a product in the marketplace (adapted from Byun & Mann, 2011; Kemp & Hanemaaijer, 2004).

Perceived value is defined as the customer’s assessment of the utility of a product based on perceptions of what is received and what is given (Zeithaml, 1988).

Purchase intention refers the mental stage in the decision-making process in which the consumer has developed an actual willingness to purchase an object or brand (adapted from Ajzen, 1991; Dodds et al., 1991; Wells, Valacich, & Hess, 2011).

Self-efficacy is defined as the belief in one’s capabilities to organize and execute the courses of action required to manage prospective situations (Bandura, 1986).

Opinion leaders are defined as “individuals who exert an unequal amount of influence on the decisions of others” (Rogers & Cartano, 1962, p435).

Opinion seekers are defined as individuals who actively seek advice from opinion leader (Engel, Kollat & Blackwell, 1968), in order to obtain the best purchase decision (Punj & Staelin, 1983) and to improve their standing in a social group (Becker, 1991; Jones, 1984).

1.6 RESEARCH METHODOLOGY

1.6.1 Research Paradigm

The current study adopts positivism research approach, in which a quantitative method was implemented. Positivism research approach is preferred because the study aims to extend the theory of agonistic behaviour from biological sciences to marketing; the parallels between the two disciplines are drawn and a theoretical framework is developed to understand the influence of heuristic scarcity cues towards consumers perception and behaviour in the luxury branding context.

1.6.2 Research Design

The research design for this study is based on an experimental approach with a between-subjects factorial design of 3 (scarcity conditions) x 3 (product categories) matrix. This research also uses non-fictitious brands as the stimulus, so that the respondents are able to conceptualise a real case scenario to provide the researchers a more accurate ecological validity. Further, for the stimulus creation, although both female and male were presented with the same product categories, the product item for female and male was differentiated to acknowledge different preferences and choices across gender. Due to the differences in the stimulus, this research ensured that there is no significant difference in terms of the results between the two genders.

This research comprised of three studies and broken down into three different chapters; the studies aimed at developing and generalising the theory of agonistic behaviour in the luxury consumer context by using different product categories. All studies measured the three different heuristic scarcity cues however the Study One (Chapter Five) focuses only on publicly consumed luxury-branded product category, Study Two (Chapter Six) focuses only on privately consumed luxury-branded product category, while Study Three (Chapter Seven) is looking at experiential service category. An additional moderator – opinion leaders/opinion seeking – is also incorporated in the last study. An overview of the research design is presented in Table 1.1.

Table 1.1: Studies Employed in the Research

Scarcity Conditions	Product Categories		
	Public Product (Chapter Five)	Private Product (Chapter Six)	Experiential Service Product (Chapter Seven)
Demand-driven scarcity	Nearly Sold Out Designer Bag	Nearly Sold Out Underwear	Highly in Demand Restaurant
Supply-driven scarcity	Limited Edition Designer Bag	Limited Edition Underwear	Limited Seats available Restaurant
Control	New Arrival Designer Bag	New Arrival Underwear	New Restaurant

1.6.3 Sampling, Data Collection, and Data Analysis

Since this research focuses on luxury brand industry, the sampling frame for this study is Australian consumers who purchase luxury branded products/services on a regular basis. Australia is deemed as an ideal location to conduct this research because the Australian luxury retailing industry has rocketed over the past five years with revenue expected to grow for 10.2 percent annually to 2.1 billion through 2017-18 (Bain & Company, 2018). The data collection for study one to three occurred between August 2016 and August 2017 using Qualtrics, an online survey software with consumer panel data facilities. A self-administered questionnaire was used as the survey instrument to test for the relevant hypotheses. Established scales were employed, with a few scale measures being adapted to suit this research. The total of 2,550 data were collected, but 746 data were discarded due to straight-line responses, failed the attention checks, or failed screening questions (in Section A and C; refer to Section 4.6 Survey Instrument). Out of 1,804; 627 data for Study One, 572 for Study Two and 587 for Study Three. The collected data was inputted and analysed by SPSS 23 and AMOS 25 program. Four statistical techniques were used, including exploratory factor analysis, ANOVA, and Structural Equation Modelling (SEM), which includes Confirmatory Factor Analysis (CFA) test, multi-group analysis and interaction analysis.

1.7 DELIMITATIONS AND SCOPE

In outlining the parameters of the current study, a few delimitations are identified. First, this research focuses on luxury branding context, specifically on fashion products (publicly consumed luxury-branded products and privately consumed luxury branded products) and luxury fine-dining restaurants. These two luxury segments was selected as fashion products is considered the core of the core of luxury and has increased to €250 billion, which is more than triple over the past 20 years, while the sales of high-end food and wine both grew by 6%. In fact, luxury brands (such as Armani, Gucci and Bvlgari) are extending into the hospitality industry in order to connect with their consumers and build brand attachment through unique and multisensorial experience (Godfrey, 2017).

Second, the research focuses on Australian consumers because the luxury retailing industry in Australia has increased exponentially over the past five years growth rates of 10.2 percent annually, reaching revenues of 2.1 billion between 2017 and 2018 (Bain & Company, 2018). Limited studies have also investigated consumer behaviour in the luxury branding context for Australian consumers (e.g. Donvito et al., 2016; Ko, Phau & Aillo, 2016), making it an ideal location to conduct the current research.

Third, the aggressive and submissive behaviour is measured using the individual's intention to purchase, instead of the actual purchasing behaviour. Respondents will be shown two different brands (an elite brand or an alternative brand) and will be asked their intention to purchase the specified brands. This research makes an assumption that individuals behave aggressively by choosing the elite brand and behave submissively by choosing a mimic brand or neither brands.

Last, the perception of scarcity is conceptualised as the scarcity condition within a particular location or points in time. It does not measure scarcity in an absolute sense, when the number of products in a particular market situation is limited (Van Herpen et al., 2009).

1.8 SIGNIFICANCE OF STUDY

This research aims to offer insights towards scholars within luxury branding field regarding the influence of scarcity heuristic cues towards consumer perception and behaviour in luxury branding context. This research also aims to provide recommendations to luxury branding managers in managing their brand image and positioning. These contributions have theoretical, methodological and managerial significance.

1.8.1 Theoretical Significance

Four key theoretical contributions are identified in the current research. First, this research contributes in building and extending the theory of agonistic behaviour from biological sciences into consumer behaviour, specifically in the luxury branding context. The parallels between animal and human behaviour in acquiring scarce products will be drawn to provide insights on how consumers perceive and respond towards luxury-branded items presented with heuristic scarcity cues. This research also attempts to develop a conceptual framework as underpinned by the theory of agonistic behaviour and supported by the S-O-R model. The developed framework is also validated and generalised using three different product categories, which also served as the contextual boundary conditions. As such, the influence of the different heuristic scarcity cues on the different product categories within luxury branding context can be examined.

Third, the inclusion of perceived competition variable in the framework also beneficial to identify the effect of heuristic scarcity cues towards consumers' perception and to offer insights on the role of consumer competition in determining product valuation. The framework also involves moderating variables, such as self-efficacy and opinion leadership/seeking, which is useful in providing a richer understanding regarding luxury consumers' types and characteristics.

Last, this research is one of the first that incorporate aggressive and submissive behaviour as part of the decision making process. This research addresses the research gap in scarcity literature; this research contributes in providing a foundation for future researchers by including the alternative choice into purchase intention construct.

1.8.2 Methodological Significance

Methodologically, this research contributes by building an empirical research approach through testing different heuristic scarcity cues in the luxury branding context. As mentioned, the framework will be validated and generalised in three different studies, thus, the developed framework can be applied for future studies to understand how heuristic scarcity cues influence consumers' perception and competitive behaviour. The purchase intention is also measured using a continuum scale to accommodate both options, alternative and elite brand. The research views the purchase intention scale as a product category context, whereby alternatives and competition between brands were considered.

Moreover, this research uses pre-selected brands as the stimuli to measure purchase intention for both elite and alternative brands in order to control for confounding factors and to maintain a clear benchmark for all respondents. This research also selects non-fictitious brands in order to emulate a real-life scenario and capture the most accurate response from the respondents.

This research is also one of the first that differentiates the stimulus based on the gender to acknowledge the variation in choices and preferences across gender. Although the product categories chosen for the study are gender neutral, the product items are often gender specific. As such, the product stimulus for both males and females were differentiated to capture both perspectives and remove gender biases.

1.8.3 Managerial Significance

The current research offer significant contributions to luxury brand practitioners on how to effectively implement heuristic scarcity cues for the specific products/services. First, the research contributes in providing insights as to how consumers respond to the different product categories presented in different heuristic scarcity cues within luxury branding context. Different product categories have different characteristics and benefits offered to the user, as such, it is important to implement the most suitable heuristic scarcity cues to portray the right brand image and positioning.

Second, this research includes the perception of competition and scarcity as the impact of heuristic scarcity cues and the antecedent of perceived value. This research emphasises the importance of scarcity perception to appeal to high social-class

consumers who wish to differentiate themselves with the masses; and the significance of consumer competition in stimulating product demand. Clear recommendations on how to improve the perception of competition and scarcity are elaborated along with real luxury brands' examples.

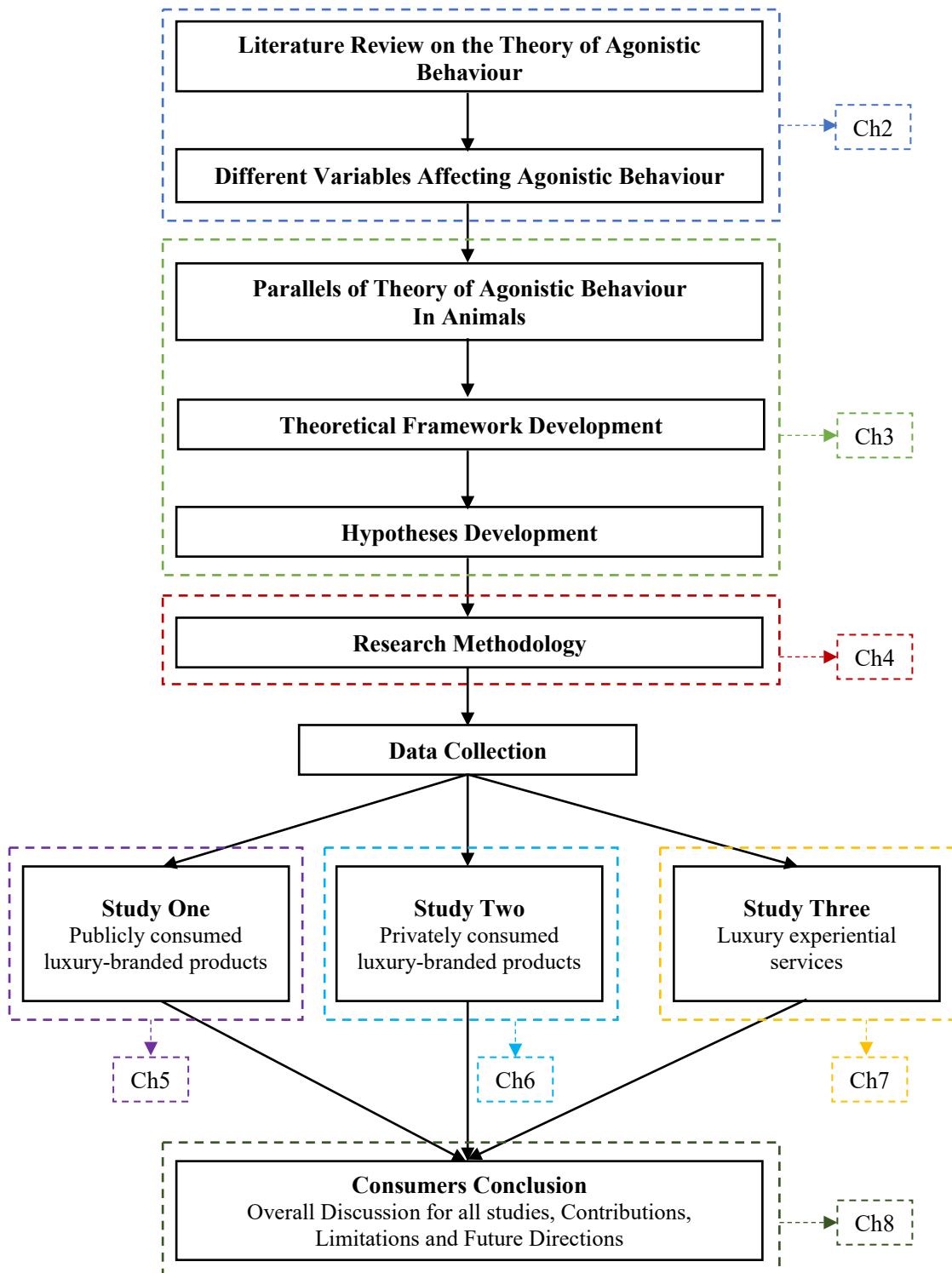
Third, this research offers strategic solutions for luxury brands managers to maximise sales without jeopardising the exclusivity of the brand. By taking into account the possibility of consumers in choosing alternative products/brands, luxury brand companies are able to introduce self-mimic product/brand targeting a different consumer group to capture a larger market share while maintaining the brand image of the original product/brand.

Last, this research includes self-efficacy as a moderator variables between perceived value and purchase intention. As such, the research contributes in providing recommendation to luxury brands managers on how to encourage consumers in purchasing the elite brand instead of the alternatives. Consumer education regarding the brand essence and origin becomes extremely important to communicate the benefits of the authentic elite brands as compared to the alternative options. Furthermore, the role of opinion leadership/seeking is also examined in the luxury fine-dining restaurant context in order to understand the different type of consumers in term of their social role which influence their product preferences.

1.9 ORGANISATION

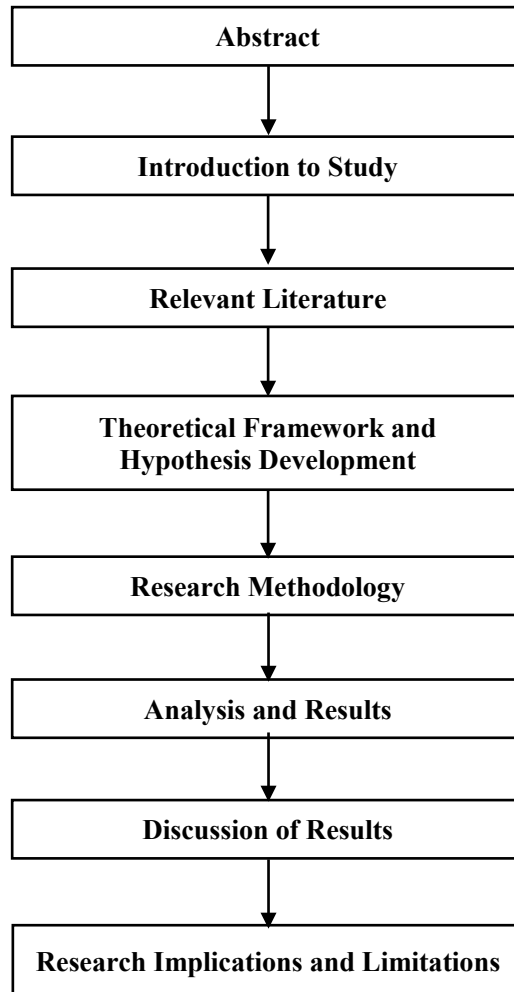
This thesis is organised into eight chapters. These include: (1) Introduction; (2) Literature review; (3) Theoretical framework and hypothesis development; (4) Methodology; (5) Study 1; (6) Study 2; (7) Study 3; (8) Conclusion. Figure 1.5 presents the schematic overview of the research process.

Figure 1.4: Schematic Overview of the Research Process



Chapters Five (*Study One*) to Seven (*Study Three*) have been written to follow the structure of a stand-alone journal article. For the purposes of this thesis, Chapters Five to Seven demonstrate a clear record of the analyses conducted in *Study One* to *Study Three*. Figure 1.6 presents a schematic overview of the structure for each of the chapters Five to Seven.

Figure 1.5: Schematic Overview of Individual Chapters



1.10 CONCLUDING COMMENTS

The present chapter provided the background and research justification of the study. Specific objectives and research questions were identified to establish the effects of heuristic scarcity cues on consumers' perception and behaviour as underpinned by the theory of agonistic behaviour. This research aims to build and extend the theory of agonistic behaviour from the field of biological sciences to marketing.

The next chapter will provide a review on luxury branding to provide a context to the research. An extensive review of the theory of agonistic behaviour will also be discussed, along with the different variables influencing the agonistic behaviour in order to understand the similarities with consumer behaviour.

CHAPTER TWO

RELEVANT LITERATURE REVIEW

2.1 INTRODUCTION

This chapter discusses the literature on luxury branding to provide an introduction to the scope of the study. Since the current research adopts a theory from the field of biological sciences, this chapter will provide an introduction regarding the theory to offer insights on how consumers perceive and response towards scarce resources, specifically in luxury branding context, and its relevance to the field of marketing. A thorough literature review on scarcity effect is also provided as scarcity is one of the main factor influencing consumer competition in luxury branding context. Research gaps related to the consumer behaviour application of agonistic behaviour are identified throughout the literature review.

The chapter is organised into four broad sections, as follows:

1. The first section defines and provides an in-depth literature review on luxury brands which serve as the context of the study. This section also identifies the different theories and frameworks which have been widely applied in the luxury branding context and the theoretical gaps within the field.
2. The second section discusses the application of evolutionary psychology in the luxury branding context and covers existing cross-disciplinary studies from biological sciences and consumer behaviour.
3. The third section introduces the theory of agonistic behaviour and highlights extensive literature of its basic concepts and understanding. The relevant variables which may, directly and indirectly, affect agonistic behaviour in the context of luxury branding are also identified. These variables include scarcity effect, consumer competition, product types, and personal factors.
4. The last section summarises the research gaps identified throughout the literature review along with the identification of the research questions and research objectives of this thesis.

2.2 LUXURY BRAND

2.2.1 Defining Luxury

According to the Oxford dictionary (2016), the term ‘luxury’ is adopted from the Latin term, ‘luxus,’ which is described as soft or extravagant living, sumptuousness, and opulence; it is also rooted from the phrase ‘luxuria,’ which is described as ‘excess, lasciviousness and negative self-indulgence.’ In ancient times, luxury was used to describe valuable objects such as gold and gems that were worn by kings, princes or church dignitaries (Berry, 1994). The notion of ‘luxury’ has existed in different forms of consumption practices from as early as Ancient Egyptian, Roman, and Greek empires and still exists in modern societies today (Berry, 1994).

Nowadays, the term ‘luxury’ is often popularised and overused, thus creating confusion and blurred distinctions (Kapferer, 2014). Luxury is now a subjective word and an abstract concept which could refer from almost everything to almost nothing depending on the context and on the individuals in question (Heine, 2012; Kemp, 1998). It is no longer limited to gold or gems; luxury may include everyday items, ranging from handbags to cars (Christodoulides, Michaelidou, & Li, 2009). For instance, a basic car in a developed country may be considered as a luxury in a developing country.

Despite the difficulties in conceptualising luxury, most researchers share a basic understanding of luxury. Luxury is something that is considered superfluous and more than necessary (Bearden & Etzel, 1982; Csaba, 2008; De Barnier, Rodina, & Valette-Florence, 2006; Dubois, Laurent, & Czellar, 2001). Luxury does not only represent tangible and functional dimensions, but also represents intangible and symbolic dimensions, which are strongly demonstrated within the cultural values of the society of a particular historical period (Heine, 2012). Luxury products and services generally are scarce, available exclusively to few people or at least only on rare occasions (Bearden & Etzel, 1982). Kapferer (1997, 253) defined the word ‘luxury,’ its sociological references, and the pragmatics of luxury-brand management as *“beauty; it is art applied to functional items. Like light, luxury is enlightening. [...] They offer more than mere objects: they provide a reference of good taste... Luxury items provide extra pleasure and flatter all senses at once... Luxury is the appendage of the ruling classes.”*

Berry (1994) categorises luxury goods into four categories. The first category is sustenance, which include food and beverages. Nowadays, food and beverages are not only to sustain physical needs, but also to create a wonderful dining experience. For instance, five-star restaurants often serve expensive caviar and champagne or five-star hotels may offer the guests a personal chef allowing them to request for anything they wish to eat (Eytan, 2015). The second category is shelter. Houses and apartments sometimes include more than the necessity furniture, it may also include fancy shower, bath tub, king size bed, and other luxury furniture (Tzeses, 2016). The third category is fashion. This category includes accessories such as jewellery, perfume, handbag, shoes, and other types of fashion products. Luxury brand companies such as Chanel, Hermes, and Dior generate high profits from selling luxury fashion products to consumers (Handley, 2018). The last category is leisure, which include holidays and entertainment. Recent trends have shown that people are likely to spend their money on holidays and entertainment to improve their lives and mental well-being (Ryan & Malcolm, 2016). Out of the four categories of luxury brands, this research focuses on both luxury fashion and luxury fine-dining experience. A further discussion regarding to the selected product categories will be discussed in the later section.

2.2.2 Defining Luxury Brands

Luxury brands are defined as particular branded items which are used or consumed, apart from its functional utility, to bring esteem to the owner (Vigneron & Johnson, 2004). True luxury goods do not seek rational justification for either their creation or their price (Simonet & Virgile, 2013). In consumers' minds, luxury brands are perceived to have the highest level of non-functional associations with a high degree of aesthetics, rarity, price, extraordinariness, and quality (Heine, 2012; Phau & Prendergast, 2000).

Nueno and Quelch (1998) defined luxury brands as those whose price and quality ratios are the highest in market; and while the ratio of functionality to price might be low with regards to certain luxury goods, the ratio of intangible and situational utility to price is comparatively high. Luxury brands are often linked to both the impressive-functional facet (which relates to the quality, craftsmanship, and durability of luxury brands) and the impressive-emotional facet (which relates to the symbolic qualities of luxury brands) (Hudders, Pandalaere & Vyncke, 2013; Pantzalis, 1995; Phau &

Prendergast, 2000; Vigneron & Johnson, 1999). Luxury brands' symbolic attributes have become the selling point of luxury brands.

2.2.3 Values and Characteristics of Luxury Brands

A number of researchers have attempted to conceptualise luxury brands by identifying its values and characteristics (e.g. Dubois et al., 2001; Kapferer, 1998; Vigneron & Johnson, 1999). Despite their differences, the factors identified across those studies are overlapping and similar to one another. The following section identifies the characteristics of luxury brands suggested by multiple authors (e.g. Alleres, 2003; Arnault, 2000; Dubois et al., 2001; Kapferer, 1998; Moore & Birtwistle, 2005; Oknokwo, 2007; Phau & Prendergast, 2000; Vigneron & Johnson, 1999)

2.2.3.1 High Quality

Luxury brands are expected to offer higher-quality products and performance as compared to non-luxury brands (Arnault, 2000; Dubois et al., 2001; Nueno & Quelch, 1998; Phau & Prendergast, 2000). Developing a long-term commitment to quality is essential to maintaining a luxury brand image (Vigneron & Johnson, 1999). According to Kapferer's (1998) findings, consumers perceive that luxury brands offer superior attributes compared to non-luxury brands in terms of the design, craftsmanship, material used, production method, and technology. Rolls Royce is a clear example of how superior quality and product features can set their brand and products apart from the other automotive brands. For instance, each Rolls Royce Phantom requires 2,600 hours to be completed to ensure impeccable quality in the product (Kapferer, 2009). As a result, 65% of all Rolls Royce cars produced have been reported to be in sound working condition even today (Berman, 2018). Additionally, the Spirit of Ecstasy emblem on every Rolls Royce car is able to fold down inside the hood as soon as the engine stops and automatically emerges when the engine starts again. This distinct feature is a prominent feature which makes a Rolls Royce car unique.

2.2.3.2 Scarcity and Uniqueness

The concept of exclusivity and scarcity is well documented in the literature of luxury brands (e.g. Kapferer, 1998; Moore & Birtwistle, 2005; Oknokwo, 2007; Pantzalis, 1995; Phau & Prendergast, 2000; Vigneron & Johnson, 2004). The true meaning of luxury lies in its uniqueness, rarity, and the inability of the masses to obtain it (Dubois

& Paternault, 1995). Scarcity effect often comes naturally due to the high price tag associated with the luxury brands. (Dubois et al., 2001). Luxury brands are expected to have a tightly controlled distribution for the brand (Kapferer, 1998; Moore & Birtwistle, 2005; Oknokwo, 2007). Luxury brand consumers believe luxury should be reserved only for selected individuals in order to distinguish themselves from non-elite consumers (Barnett, 2005). Through high prices and exclusive distribution, an entrance barrier between consumers and non-consumers are set, making it impossible to be reached by the mass market (Dubois & Duquesne, 1993). Thus, the owners of luxury products are able to differentiate themselves from the masses, rendering them one of the elite (Belk, 1988; O’Cass, 2004; Vigneron & Johnson, 1999, 2004). Being part of a niche group provides satisfaction to the individuals which serves as a motivator to consume luxury goods (Kapferer, 1998). As the Rarity Principle states, “luxury products are perceived by consumers as rare products; when over diffused, they gradually lose their luxury character” (Dubois & Paternault, 1995, p72). To create a ‘dream’ brand, luxury brand companies must maintain a high level of awareness and demand, yet the supply must remain low (Phau & Prendergast, 2000). As such, luxury brands often face the challenge of growing while maintaining its brand positioning as scarce and rare.

2.2.3.3 Perceived Conspicuousness

Luxury brands generally have a high price tag which is considered a logical outcome of the high quality of luxury goods (Dubois et al. 2001; Kapferer 1998). As a result, individuals who consume luxury labels are perceived as wealthier, which allows them to enhance their social status, show off their wealth, and evoke envy in others (Nelissen & Meijers 2011; Veblen 1898). Further, individuals who wear luxury-branded products are more likely to be treated more favourably compared to individuals who do not. Nelissen and Meijers (2011) conducted an experiment in which they asked participants to evaluate and provide opinions regarding potential applicants for a laboratory assistant position. The applicants were presented to participants wearing branded or non-branded clothes. The results showed that participants in brand label condition perceived the applicants to be more suitable for the job and suggested that those individuals should earn more as compared to the applicants in the no label condition. This suggested that status indicated by brands influences individuals’ evaluation of a person (Nelissen & Meijers 2011).

Therefore, social visibility is essential (Oknokwo, 2007). Non-visible goods are not preferred due to their inconspicuous nature and inability to be externally verifiable (Chao & Schor, 1996). Moreover, non-visible goods require self-reporting which is often perceived as not credible and may indicate an individual's concern with status; in some contexts this can significantly undermine status (Chao & Schor, 1996). It explains why consumers are more likely to spend more money on decorating public rooms (e.g. living and dining rooms), in comparison to private rooms (e.g. bedrooms) (Chao & Schor, 1998); or why wealthier households spend a more significant share of their income on visible items (e.g. cars and clothes) as opposed to privately consumed products (e.g. underwear and laundry) (Heffetz, 2007).

2.2.3.4 Perceived Hedonism

Perceived hedonism indicates consumers' desire to consume and acquire products in order to gain emotional value, allowing them to achieve personal reward and fulfilment rather than functional needs (Vigneron & Johnson, 2004). Luxury brands are often seen as pieces of art which should not only have a strong aesthetic appeal, but are also pleasant to touch, smell or taste (Dubois et al., 2001). Luxury brands are often intriguing and become a source of sensual pleasure that cannot be reduced to mere functional quality (Kapferer, 1998). These brands promote personal gratification and pleasure through the acquisition of products and services that require an above-average income (Thompson, 2010). The 'lipstick effect,' a phrase coined by Estee Lauder, captures a well-known phenomenon in which individuals purchase affordable luxuries as substitutes for more expensive items after experiencing psychological stress (Kapferer, 2012). For instance, a woman may purchase a Yves Saint Laurent lipstick at \$60, a price far beyond the functional value that the product commands, to feel a sense of luxury and to escape into an ideal world of beauty, pleasure, and gratification (Dubois et al., 2001; Kapferer, 2012). However, for this effect to happen, products or services have to be from brands that are renowned and prestigious symbolic of the lives of the rich and famous (Alleres, 2003; Kapferer, 2012). Hence, brand awareness is crucial for luxury brands to succeed (Phau & Prendergast, 2000).

2.2.3.5 Perceived Extended-Self

Similar to perceived uniqueness, the perceived extended-self includes behaviours that aim to associate the individual with others and express their identity through symbolic

meaning. Consumers have the tendency to buy and consume products in line with their self-concepts as posited by the image-congruence theory (Sirgy, 1982, 1985). Luxury brands reveal the identity of their users and allow others to draw conclusions about them (Dubois et al., 2001). As previously discussed, luxury brands are reserved for 'refined' individuals who fully appreciate the essence of luxury goods (Dubois et al., 2001). Thus, highly materialistic consumers are more likely to own and consume luxury brands as a means to achieve happiness and portray personal success (Bearden, Netemeyer & Teel, 1989; Belk, 1985; Richins, 1994; Vigneron & Johnson, 2004).

2.2.3.6 Ancestral Heritage and Personal History

Luxury brands should have a long history and tradition which becomes a part of the identity and values of a brand (Dubois et al., 2001; Kapferer, 1998). The storytelling capabilities of a luxury brand heritage is central to the success of luxury brands as it generates strong corporate marketing (Fionda & Moore, 2009; Moore & Birtwistle, 2005). Brands with strong brand heritage provides consumers with a feeling of security and well-being and are more likely to be rated as more trustworthy and credible (Stewart-Allen, 2002). Wiedmann, Hennigs, Schmidt and Wüstefeld (2012) have also shown that brand heritage minimise buying risk and increase perceived value.

2.2.4 Types of Luxury Products and Brands

The concept of luxury, as described previously, is abstract and fluid. Hence, a form of classification is necessary to eliminate confusion and to provide distinction on the different types of existing luxury brands and products available. Heine (2012) categorised luxury brands in terms of (1) their level of luxury; and (2) the level of conspicuousness (this includes the consumption setting & prominence level of the brand mark). These distinctions are essential to determine the scope and contexts of this study.

2.2.4.1 Luxury levels

Luxury level categorisation identifies the degree of luxuriousness for luxury brands based on their price ranges and accessibility (Heine, 2012). The luxury brands pyramid by Rambourg (2014) highlights the different tiers of luxury brands as follow:

- **Entry-level luxury brands** are lowest in the luxury hierarchy and are generally not recognised as luxury items. The brands are considered affordable luxuries,

and are easily accessible by the general consumer. The price range of the entry-level luxury brands is between USD 100-300. Brands within this category include Coach, Geox, and Montblanc (Rambourg, 2014).

- **Medium-level luxury brands** are one-step behind the forefront of luxury as they are still accessible by mid to high social income groups (but not lower income groups) and are widely recognised as luxury goods. The price range of medium-level luxury brands is between USD 300-1,500. These brands include Tod's, Gucci, Prada, Tissot, and Louis Vuitton (Rambourg, 2014).
- **Top-level luxury brands** are unequivocally considered as leading luxury brands. The price range of top-level luxury brands is between USD 1,500-5,000. These brands include Cartier, Rolex, Bulgari, Omega, Tag Heuer, and Hermes (Rambourg, 2014).
- **Elite-level luxury brands** are the top of the top luxury hierarchy that serve as the benchmark of highest exclusivity and best quality. Often, these brands or product categories are bespoke and not accessible to the mass market. The price range of the elite-level luxury brands is over USD 5,000. These brands include Patek Phillippe, Harry Winston, Br guet, Leviev, and Graff (Rambourg, 2014).

2.2.4.2 (In)conspicuous Luxury Consumption: Publicly vs. privately consumed luxury-branded products

Luxury-branded products are differentiated by the social setting of consumption (Heine 2012). Publicly consumed luxury products are items which are consumed in public view and seen by others such as cars, handbags and shoes. (Bearden & Etzel, 1982; Giert & Huettl, 2010). Privately consumed luxury products are items which are consumed out of public view and generally are not seen by others such as underwear, nightwear and kitchen appliances. (Bearden & Etzel, 1982; Giert & Huettl, 2010). However, the categorisation is also situation-dependent for some product categories (Heine, 2012). For example, a wallet can be consumed in public or out of public when put inside the handbag. Similarly, a premium wine can be consumed at a restaurant and enjoyed with family or friends (publicly consumed) or at home by oneself (privately consumed).

2.2.4.3 (In)conspicuous Luxury Brands: Conspicuous vs. inconspicuous luxury branded goods

Luxury-branded products are also categorised by the prominence level of the brand mark on the product itself regardless of where the product is consumed (Makkar, 2014). More conspicuous luxury brands generally have a logo or brand mark which are more prominent, louder and more visible making the brand easily identifiable (Han, Nunes & Dreze, 2010). For instance, Louis Vuitton's famous monogram pattern has the letters "LV" all over the bag. On the other hand, inconspicuous luxury brands generally hide any conspicuous attributes (Heine 2012). For instance, Bottega Veneta and Jill Sander are well-known for their understated products which do not feature a visible logo. However, these products still have a characteristic design that can be easily recognised by a niche group of people.

The present research focuses on top-level and elite-level luxury brands. It also investigates different product categories such as publicly consumed luxury-branded products, privately consumed luxury-branded products, and luxury experiential services (which will be discussed in the following section). It is further important to clarify and emphasise the distinction between (in)conspicuous luxury consumption (consumption setting) and (in)conspicuous luxury brands (prominence level of the brand mark) to avoid confusion and to delimit the scope of the current study. The prominence level of the brand mark is not the focus of the current study and will be included as a future direction.

2.2.5 The Rise of Luxury for the Masses

In recent years, the luxury brand industry has widened its customer reach, making it more accessible to masses (Simonet & Virgile, 2013). Contradicting the traditional idea of exclusivity and uniqueness that is the essence of luxury, many brands within the luxury markets are stretching the boundaries by producing large amounts of products (Catry 2003). The interest in luxury goods has been developing among medium class consumers and the circle of luxury brands owners has expanded significantly throughout the years (Bain & Company, 2018). Together with the growth of counterfeit luxury-branded items (Lin, 2011), the increasing wealth of millions of consumers (Yeoman & McMahon-Beattie, 2011), and the production of less expensive new luxury goods (Silverstein & Fiske, 2003), the meaning of luxury has been diluted

(Eckhardt et al., 2015). Some luxury brands are not as exclusive and scarce as before (Kapferer, 2012) and their role in signalling high status has become redundant and obsolete. Top luxury brands face the risk of overexposing themselves to the crowd and diluting the definition of prestige and status (Yeoman & McMahon-Beattie, 2011). For example, Louis Vuitton, due to the brand's immense popularity, is now considered as 'a brand for secretaries' by many wealthy Chinese consumers (Main, 2017). Many luxury customers have portrayed negative attitudes towards other similar luxury brands due to the loss of perceived prestige or exclusivity of the brand (O'Cass & Frost, 2002; Shukla, 2012). Some consumers even abandon their favourite luxury brands and shift to even higher-end bespoke brands because less affluent consumers share the same preferences (Berger & Heath, 2007, 2008; Main, 2017; Phau & Prendergast, 2000; Yang & Matilla, 2014).

The massification of luxury has become a common phenomenon in the marketplace, yet the impact has not been fully understood in theory. Thus, this thesis aims to provide insights and recommendations to solve the growth dilemma for luxury brands companies through the manipulation of heuristic scarcity cues. This thesis also attempts to identify how luxury brands should manage their brand image in order to remain exclusive and desired by luxury consumers.

2.2.6 Key Theories and the Application of Theoretical Framework in the Field of Luxury Branding

Since luxury brands are now becoming more accessible to the market, it becomes important to address this issue in order to maintain a luxury brand image. Multiple theories have been developed to explain consumers' motivations for purchasing luxury brands and to identify the different types of luxury consumers (e.g. the Veblen effect, self-concept congruence theory, etc.) An existing theoretical framework have also been applied to explain the behaviour of luxury consumers (e.g. theory of planned behaviour). However, few theories and frameworks explain how heuristic scarcity cues influence consumers' perception of scarcity and competition among other buyers in luxury branding context (Kristofferson et al., 2016). To date, no theories have explained how scarcity cues (demand-driven or supply driven) may discourage also consumers in purchasing luxury items (Gierl & Huettl, 2010). The following section

will identify the theories and theoretical framework relating to the field of luxury branding to illustrate the theoretical gaps within the field.

2.2.6.1 *Self-Concept Congruence Theory*

Individuals consume products/brands/services for both functional and symbolic value (Belk, 1988; Lee & Hyman, 2008; Solomon, 1983). Product consumption allows the individual to express themselves (Aaker, 1996). It also allows them to define, maintain, and enhance their self-concept (Grubb & Grathwohl, 1967). The self-concept congruence model was proposed by Sirgy (1982) and Sirgy and Samli (1985), and integrated the actual and ideal self-components with a product's image. Actual self-image is defined as the perception of oneself, while ideal self-component is defined as the image of oneself as one would like to be (Belch, 1978; Delozier & Tillman, 1972; Dolich, 1969). Self-concept theory has been used in the luxury branding context to understand consumers' motivation in purchasing luxury products (e.g. Kastanakis & Balabanis, 2014; Liu, Li, Mizerski, & Soh, 2012; Sung, Choi, Ahn, & Song, 2015; Truong, McColl & Kitchen, 2010; Tsai, 2005; Vigneron & Johnson, 2004). Based on previous findings, high social status individuals are more likely to perceive luxury products more positively and likely to purchase it as they see a high degree of congruence between their self-concept and the product (e.g. Sirgy & Samli, 1985; Malhotra, 1988; Graeff, 1996; Hong & Zinkhan, 1995). On the other hand, aspiring luxury consumers may perceive luxury products more positively as they see the product as the tool to elevate themselves to achieve their ideal self-concept. Self-concept theory identifies one motivation to purchase luxury brands, but it does not provide a holistic view of the luxury decision-making process.

2.2.6.2 *The Veblen Effect*

Thorstein Veblen (1899) was the first to introduce the concept of conspicuous consumption. He believed that individuals purchase highly conspicuous goods and services to display their wealth and gain high social status (Bagwell & Bernheim, 1996). Thus, the "Veblen effect" exists when individuals demonstrate a willingness to pay a higher price for a functionally equivalent good. In fact, due to its high price, the demand for the good is increased (Leibenstein, 1950). Veblen (1899) also identified two motives for consuming conspicuous goods. The first motive is invidious comparison in which an upper social class member has a desire to distinguish

themselves from a lower social class member by consuming products and services conspicuously (Bagwell & Bernheim, 1996). The second motive, pecuniary emulation, occurs when a lower social class member consumes conspicuously to become a member of the upper social class (Bagwell & Bernheim, 1996). Non-elite consumers with high status-seeking traits envy those who live luxury lifestyles and try to conform to the elite consumers through the consumption of similar luxury goods (Barnett, 2005).

The Veblen effect has become the foundation in understanding why consumers purchase products with price tags beyond their functional value. As previously identified, a high price tag is an essential element of a successful luxury brand as it screens out the low social class consumers who do not have the financial ability to purchase luxury brands. Thus, if luxury companies reduce the prices for all their products, they would see an increase in sales for a short period and little to no sales in the long-run (Bagwell & Bernheim, 1996). It is however noteworthy that the Veblen effect is limited to the function of price and does not take the interpersonal influence into account, thereby not fully explaining consumers' purchase behaviour of luxury brands.

2.2.6.3 The Four Ps of Luxury Consumers

Han et al. (2010) developed a taxonomy to categorise consumers to one of four groups according to their wealth and need for status which, in turn, provides insights into luxury consumers' preference for luxury brands in terms of their prominence levels.

Patricians and Parvenus are both the wealthy group ("haves"). Patricians typically possess significant financial resources yet have a low need for status (Han et al., 2010). They are more concerned in associating with other Patricians rather than disassociating themselves from the masses. Thus, they are likely to avoid obvious brand signalling and choose subtle signals which can only be interpreted by and serve as a horizontal signal to other Patricians (Han et al., 2010). Similar to Patricians, Parvenus also possess significant wealth but they seek status through conspicuous signals (Han et al., 2010). They are more concerned in disassociating themselves from the masses and, in turn, are likely to consume luxury brands with prominent brand logos and labels (Han et al., 2010). For instance, the distinct "LV" monogram pattern would be attractive to

them as this symbol makes it apparent that the product is unattainable to those below them.

The less wealthy group (“have-nots”) are labelled Proletarian and Poseurs. As the term suggests, Poseurs are individuals who pretend to be what they are not. They are highly motivated to gain status and want to be associated with those who are wealthy (Han et al., 2010). Since they do not have the financial resources to afford authentic luxury goods, they are likely to purchase counterfeit luxury goods in order to imitate the tastes and lifestyle of the elite consumer class (Phau & Teah, 2009). On the other hand, Proletarians are those from the lower social class who are also less status-conscious (Han et al., 2010). They do not have the desire to consume either conspicuous or inconspicuous luxury products, to either associate themselves with the higher social class or dissociate themselves with the lower social class.

The taxonomy by Han et al. (2010) has been widely applied in the field of luxury branding to understand the role of brand prominence (e.g. Cheah, Phau, Chong, & Shimul, 2015; Yang & Matilla, 2014) and word of mouth (e.g. Wang, 2011; Yang & Matilla, 2016). It also has been applied in the context of luxury experiential services (Yang, 2012; Chang, Ko & Leite, 2016). However, this theory is only relevant in identifying consumers’ preferences based on their need for status and financial states.

2.2.6.4 The Snob Effect (Perceived Unique Value) and the Bandwagon Effect (Perceived Social Value)

The snob effect exists when the demand for a consumers’ good decreases as more consumers consume the same good (Leibenstein, 1950). It originates from both interpersonal and personal effects by taking into account the emotional needs when purchasing luxury brands and the influences of other individuals’ behaviours (Vigneron & Johnson, 1999). Despite its similarity to the Veblen effect, the snob effect is a function of the consumption of others while the Veblen effect is a function of price. The snob effect represents the need of individuals to be unique and exclusive; to distance themselves from the "common herd" (Leibenstein, 1950). The snob has two main characteristics, namely: (1) they will be the first few consumers to purchase new released luxury products; and (2) they will reject a particular luxury product that is seen to be too popular and consumed by the general mass of consumers (Mason, 1981).

In contrary to the snob effect, the bandwagon effect exists when the demand for a product increases as more consumers consume the same product (Leibenstein, 1950). Although snob and bandwagon effect have contradicting reasons in explaining the purchase of luxury brands, they highlight the same basic motivation: to enhance a consumers' self-concept (Daswani & Jain, 2011). In line with the pecuniary emulation motive, a prestigious and luxurious brand serves as a symbolic marker of group membership and, in turn, encourages a consumer to conform with high social status groups (Bagwell & Bernheim, 1996) and/or differentiate themselves from low social status groups (Leibenstein, 1950). As such, the bandwagon effect represents the need of individuals to purchase luxury products to get into "the swim of things", to be associated with the individuals they admire, to appear fashionable or stylish, and to be "one of the boys" (Leibeinstein 1950, p189).

The snob and bandwagon effect ultimately explain why snobs are likely to sway away from products which are perceived to be too popular, while followers tend to choose the popular items. Although the snob and bandwagon effects explain the need of product scarcity to appeal to the snobs and also identify the social influence towards purchasing luxury brands, there are limited studies applying the snob and bandwagon effect to examine the relationship between heuristic scarcity cues and perception of scarcity and competition (Kristofferson et al., 2016). Further, limited studies have applied these theories to empirically test the influence of heuristic scarcity cues towards consumers' willingness in purchasing luxury brands.

GAP 1: *There are limited research and theories that explain how heuristic scarcity cues influence consumer purchase behaviour, specifically within a luxury branding context.*

2.3 APPLICATION OF EVOLUTIONARY PSYCHOLOGY IN THE LUXURY BRANDING CONTEXT

Over the decades, scholars have integrated the study of biological sciences into their research in order to understand the origins of the human species and evolutionary history (e.g. Confer et al., 2010; Cummins, 2005; Saad, 2007). They believed that animals portray physiological, genetic, and behavioural similarities to human beings, making them a valid model system to understand consumer behaviour (Colarelli & Dettmann, 2003; Griskevicius & Kenrick, 2013; Griskevicius et al., 2009; Saad & Gill, 2000).

Evolutionary psychology, rooted from the Theory of Evolution, is a marriage between modern psychology and evolutionary biology, and uses the logic of natural selection to understand human mental processes and behaviours (Buss, 1995; Colarelli & Dettmann, 2003). It explains that the presence of internal psychological mechanisms is the fundamental reasoning of all psychological theories in the similar manner evolution has for biology (Buss, 1995). In solving everyday issues in specific ancestral social environments, human beings are hard-wired to act in manners that provide them with an evolutionary advantage in order to survive, thrive, and reproduce (Griskevicius & Kenrick, 2013).

Evolutionary theory has been applied in different fields of study, including humanities, social sciences, natural sciences, and marketing (e.g. Griskevicius, Cantu, & Van Vugt 2012; Saad & Gill 2000; 2003; Wang & Griskevicius 2013). Within the marketing field, the theory has also been widely applied to understand individual preferences for luxury brands (e.g. Griskevicius et al., 2007; Miller, 2009; Saad, 2007, 2017; Saad & Vongas, 2009). According to the theory, the consumption of luxury-branded products is motivated by a more profound explanation rooted in the adaptive function of behaviour, instead of just the need to display status, signal wealth, experience happiness, personal gratification or fulfilment (Griskevicius & Kenrick, 2013). Although most people often do not recognise the ultimate reason behind their behaviours (Barrett & Kurzban, 2006; Kenrick, Griskevicius, Neuberg, & Schaller, 2010; Tooby & Cosmides, 2005), every action has both immediate and ultimate causes which aim to increase evolutionary benefits. For instance, a man can be consciously motivated to purchase a luxury car because it makes him feel good due to its expensive

leather seats and acceleration ability (a proximate reason). However, he may be unconsciously motivated to own that car as it can increase his attractiveness as a potential mate which leads to higher reproductive fitness (an ultimate reason) (Griskevicius et al., 2007; Sundie et al., 2011).

As such, according to evolutionary psychology, the need to purchase luxury products is a proximate reason for achieving social dominance and the fundamental need of mating (Griskevicius & Kenrick, 2013). In term of achieving social dominance, luxury consumption serves as a costly signal that is useful to enhance status, which in turn elicits favourable treatment and benefits in human social interactions (Nelissen & Meijers, 2011). An example of costly signalling trait is the peacock's tail, whereby the quality of its tail serves as an authentic signal of the quality of the peacock's genes to potential mates (Griskevicius et al., 2007). Thus, conspicuous luxury products, for humans, may serve an equivalent function to conspicuous tails for peacocks (Sundie et al., 2011). Since luxury brands are often associated with wealth and high status, luxury goods consumption displays qualities desirable for individuals. When individuals face others who display luxury, they are more likely to show more social restraint and behave submissively (Fennis, 2008). For example, people are less likely to honk after the traffic light has turned green if the car in front of them is more expensive than theirs (Doob & Gross, 1968).

Other than establishing dominance in the society, luxury brand consumption also plays a vital role in choosing the ideal mate for both men and women (Garcia & Saad, 2008). When the mate acquisition system is activated, individuals have the need to be noticed and to stand out. For instance, in order to be different, when men are asked whether they prefer Mercedes-Benz or BMW cars, they are more likely to choose brands that the majority do not prefer, regardless of the brand (Griskevicius et al., 2006). Individuals are also likely to display luxury-branded products which serves as a status-signalling strategy to produces fitness benefits (Nelissen & Meijers, 2011). Since luxury brands are often associated with wealth and high status, luxury goods consumption displays qualities desirable for men. Adequate economic resources serve as a valid indicator for women (Hill & Buss, 2008) to provide assurance and security towards their survival along with their kin (Garcia & Saad, 2008). Hence, women tend to grow fond of men who are keen to invest significantly in their other half and children (Geary, 2000). As such, the need to signal adequate economic resources increases

men's intention to spend on luxury products (Griskevicius et al., 2007) and to choose more prominent and expensive brands (Sundie et al., 2011). Women, on the other hand, have the tendency to display luxury brand labels as a self-promotion strategy in order to deter female rivals (Hudders, De Backer, Fisher & Vyncke, 2014; Wang & Girskevicius, 2014). Women, in general, put a lot of importance towards their physical appearance (Buss, 1989) and clothing and other fashion items are used as a tool to improve their attractiveness (Singh, 1993). Women who possess luxury brands are perceived to be more attractive, sexy, smart, mature, and ambitious compared to those who do not, improving their benefits against same-sex rivals for companions (Hudders et al., 2014). Additionally, it was found that women who own luxury goods have more devoted partners compared to those who do not (Wang & Girskevicius, 2014). This finding is in line with previous literature which state that gift giving has evolved as a distinctly male courtship strategy (e.g. Saad & Gill, 2003). Therefore, when women feel that their romantic relationship is threatened, women are more likely to display publicly consumed luxury-branded products (Hudders et al., 2014) with larger logos and spend more money on luxury goods to guard their current mate against other women (Wang & Girskevicius, 2014).

This signalling trait has become exceptionally important in today's society as it plays a role in identifying an individual's status and class within the group. Status differences among individuals play a huge role in resource allocation, conflict resolution, and mating (Fried, 1967; Cheng, Tracy, & Henrich, 2010). Individuals with high social status have higher influence over group decisions and resource allocations (Berger et al., 1980). In contrast, individuals with low social status often submit and give up these benefits for higher status group members. As a result, many individuals have the desire to be one of the high social status individuals in order to achieve dominance within a social setting.

2.4 THE THEORY OF AGONISTIC BEHAVIOUR

This research integrates the theory of agonistic behaviour to understand how consumers perceive and respond to luxury-branded products. This thesis also attempts to identify how the luxury brands should manage their brand image in order to remain exclusive and desired by luxury consumers, whilst maximising sales. The following section introduces the theory of agonistic behaviour which serves as the theoretical background of the present research.

2.4.1 Introduction to the Theory of Agonistic Behaviour

All habitats contain a rich combination of resources; some are edible, yet most of it is not. Although some animals may easily find suitable food, most often find it difficult to obtain food and may have to go through an extensive process, including learning and decision-making to acquire food (Slater, 1986). Failing to select food with all the necessary nutrients and vitamins could potentially endanger the life of the animal. Only those who have the necessary skills and knowledge are able to obtain the needed resources, while others are more likely to perish.

Many scholars observed and debated the phenomenon resulting in multiple theories, yet the theory proposed by Charles Darwin (1859) was the most renowned. With his Theory of Evolution through natural selection, Darwin asserted that the ability of all animals and plants to adapt within the environment is not due to the sudden creation. Instead, it was due to an extended process of evolution (Tinbergen, 1966). According to the Theory of Evolution, a living beings' population can grow indefinitely when there are no limitations. Nevertheless, the limited availability of resources constrain the carrying capacity of an environment to support an indefinite population (Colarelli & Dettmann, 2003). Different individuals cannot be equally well-equipped for survival and the pressures of the environment will slowly but inexorably discriminate against the less fit types (Tinbergen, 1966). Similarly, as previously identified, the evolutionary theory believes that human beings behave and think in a certain way which aims to increase evolutionary benefits. Those with traits most adaptable to their environments will live long enough to reproduce while individuals who do not possess such traits would eventually become extinct. For instance, in the animal context when there is an overpopulation in the environment, giraffes who have longer necks, are more likely to survive. They can reach the upper and untouched leaves from the top

branches of trees, while those with shorter necks are forced to find alternatives. This cycle causes the evolution of the entire species over time and sometimes extinction of older species.

Competition amongst animals is unavoidable and all living organisms have to compete with others to obtain food resources in order to survive (Mursa, 2012). Interestingly, competition between individuals of the same species seldom cause serious injury to either party and hardly ever end in death. Fights amongst animals in the same species are highly organised and civilised. They look like a contest – than a mortal struggle – which is faithfully adhered by all members of the species and almost never violated (Eisner & Wilson, 1975). One protagonist will usually turn tail and flee once it has decided that it cannot win within hours, although in some species, it can take several days of intense and sometimes bloody fighting for a contest to reach this stage (Slater, 1986). One way of persuading an opponent to retreat without fighting is to be aggressive, especially in the case of larger species where animals are likely to cause severe damage to one another if they fight (Slater, 1986). This social behaviour is referred to as ‘agonistic behaviour’ and comprises any specific social behaviours which are associated with fighting in animals to establish hierarchical relationships within the species (Kudryavtseva, 2000).

2.4.2 Definition of Agonistic Behaviour

The phrase ‘Agonistic’ originates from the Greek word ‘agon’ which refers to competition. Olympic, Isthmian Games, and Nemean are some examples of the best-known festivals in ancient Greece and represent agon (Scanlon, 1983). Hence, agonistic behaviour involves any behaviour that shows competition between individuals (King, 1973) which aims to impose noxious stimulation yet not deathly towards another party (Sarkar, 2003). Scott and Fredericson (1951) defined agonistic behaviour as the group of behavioural adjustments associated with fighting, which includes threat, attack, escape, defence, and appeasement. Such a concept is useful as it addresses the presence of simultaneous tendencies to attack or retreat when faced with threatening behaviour (Hinde, 1969). The temporal, functional, and possibly, causal association is not the only reason for combining the term agonistic in a separate category (Sarkar, 2003).

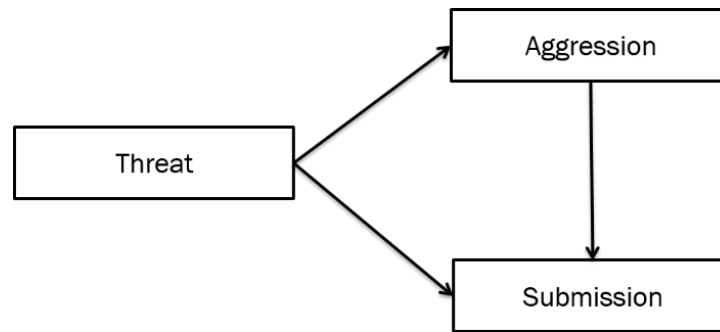
The term agonistic behaviour is also used to address the difficulty in understanding the concept of aggression. Although many have used the term aggression and agonistic interchangeably, the two are different as agonistic behaviour comprises a broader meaning than just aggressive behaviour (McGlone, 1986). Hence the development of the term ‘agonistic behaviour’ allows scientist to operationalise and define actions – other than just aggressive behaviour – that occur during fighting or competitive situations (Sarkar, 2003). In essence, the concept of agonistic behaviour includes a wide variety of actions, including attack, flight/retreat, and display threatening behaviour simultaneously during competition.

Agonistic behaviour is highly situation-dependent and likely to happen in circumstances where there is a conflict for territory, resources, status, mates, and protection of self or young (Sarkar, 2003). The fight will then determine the rank of animals of a species in the ecosystem (Deag, 1977). The winner, identified as the dominant, is the one who displays superior behaviour and are more likely to achieve its initial goal, while the loser, identified as the subordinate, is the one who declares defeat and is unable to achieve their goal (Popp & De Vore, 1979). The dominant will gain priority access to resources, social status, freedom of movement, and reproductive success (King, 1973). On the other hand, the subordinate, the loser, is forced to drive away, to repress reproductive activities, and to seek an alternative for resources. Hence, agonistic behaviour plays a vital role in identifying and determining the social hierarchy in the environment which leads to determining the entry to resources (food, mate, shelter, etc.) (Brien et al., 2013).

2.4.3 Stages of Agonistic Behaviour

Although different species of animal have the species-specific behaviour of fighting, there is a typical pattern in the way animals compete. Agonistic behaviour comprises of three different stages, namely, threat, aggression, and submission (Refer to figure 2.1).

Figure 2.1: The Stages of Agonistic Behaviour



In the first stage, threat, the animals perform species-specific vocalisations, odour, sight, postures, facial, and body movements that do not wound but provide a signal for the intent to display aggression (McGlone, 1986). For example, when competing for food, monkeys vocalise a loud and threatening sounds followed by direct stares, open-jaws and head bobbing to scare an opponent away. This threat stage will then lead to two possible scenarios. In the first scenario, the opponent decides to withdraw from the fight after being threatened. In other words, the opponent reacts to a threat by moving to the submission stage, bypassing the aggression stage. In monkeys, submissive behaviour can be seen when the monkey flees away from the fight. The second scenario happens when both animals decide to fight one another after being threatened. This stage is called aggression, in which the monkeys bite, hit and violently attack each other until one of them submits (submission stage).

The table below (Table 2.1) shows the ethogram of different animals during agonistic encounters. Submissive behaviour is indicated by intensity level -1 and -2, the neutral behaviour is indicated by intensity level 0, and aggressive behaviour is indicated by intensity level 1 to 5, in which 1 refers to low aggressive behaviour and 5 refers to high aggressive behaviour.

Table 2.1: The Ethogram for Different Animals

Intensity Level	Description				
	Crayfish (Bergman & Moore, 2003)	Canine (Abrantes, 2005)	Monkey (Cox & Hearn, unpublished ethogram 1989)	Lemur Fulvus (Vick & Conley, 1976)	Hamster (Payne & Swanson, 1970)
-2	Tail-flip away from the rival	Ears flat back, tail shallow	Fleeing, grimacing, and screeching “eee”	Approach	Moving away
-1	Slowly back away from the rival	Muzzle nudge; Showing belly and throat			Adopt defensive ritual postures
0	Disregard the rival	Relax	Ignore		
1	Approach without any threatening behaviour	Eye contact; tail slightly up	Walk towards, watching intently, hold tail erect		The opponents orientate towards each other
2	Display threatening behaviour using meral spread or antennal whip	Intruding behaviour; sniffing belly, grabbing throat, muzzle grabbing	Head bobbing, threat lunge sometimes accompanied by slapped on the ground simultaneously; bared teeth threat, threat slap	A forward thrust of the head and trunk, upright raised hand threat	Fight - Biting - Vocalization
3	Use claws (closed) to push, box, and touch the rival	Grabbing with teeth without biting			
4	Use open claws to grab the rival	Slight bite and very high tail	Slap, slapping series, grab/pinch/pull/push, chase the opponent; mock bite series (consecutive small nips along the back and neck of the opponent)	Extends one arm at shoulder level and cuffs	Chase The winner of the fight chases the loser who may then assume the full submissive posture
5	Uncontrolled fight by clutching and dragging the rival’s claw or limbs	Attack; Biting, charging, loud scream and growls			

2.4.4 Factors Influencing Agonistic Behaviour

The factor which differentiates animals from being aggressive or submissive behaviour falls within the thought process/cognition. The cognitive process comprises perception, learning, memory, and decision-making (Shettleworth, 2010). It controls how the information in the environment is captured and processed by the mind. Therefore, before animals decide whether they choose to be aggressive or submissive, they go through a thought process or cognition process which allows them to evaluate the environmental and internal factors (Premack, 2007). In the biological sciences literature, numerous factors, both internal and external, have been found to influence the agonistic behaviour in animals. Table 2.2 provides a summary of the factors influencing the agonistic behaviour and the following section regarding the details of all the factors.

Table 2.2: Factors Influencing the Agonistic Behaviour in Animals

External Factors	Internal Factors
<p>Food availability (Belzung & Anderson, 1985; Drummond, 2000; Southwick, 1967; Thomas, Carter & Crear, 2003) The higher the food availability, the higher the intensity level of the agonistic encounter. On the other hand, the lower the food availability, the lower the intensity of the agonistic encounter.</p>	<p>Body size (Cooch et al., 1991; Cooper & Vitt, 1987; Kratochvil & Frynta, 2002; Pavey & Fielder, 1996; Rubenstein & Hazlett, 1974; Schuett, 1997; Tokarz, 1985; Nosil, 2002) Larger size animals have benefits over the smaller ones during agonistic encounters. The difference in body size is also contributed due to the gender and the age of the animals. Juvenile males are more likely to lose in a fight because they are generally smaller than other groups, while female adults are more likely to win the fight as they are generally bigger than the male adults.</p>
<p>Food distribution (Brown, 1964; Grant, 1993; Magnuson, 1961; Warner, 1980) The agonistic encounter increases when the access to the food resources is restricted. Regardless of the amount of the food, if the food is placed in one place instead of evenly distributed, the intensity level of agonistic behaviour is high.</p>	
<p>Resources value (Bergman & Moore, 2003; Enquist & Leimar, 1987; Dimarco & Hanlon, 1997; Gabor & Jaeger, 1995; Murray, Mane & Pusey, 2007) Animals tend to be more aggressive when they are competing for the high-value resources. Fighting for higher resource value results in longer and more intense agonistic encounters compared to lower resource value.</p>	<p>Body features (Hillmanna, Hilfiker & Keil, 2014; Wise & Jaeger, 1998) Animals with superior body features have the tendency to display threats or visual signal instead of physical contact. They are more likely to win the agonistic encounters.</p>
<p>Social unit (Boyd, 1953; Black & Owen, 1989; Hanson, 1953; Raveling, 1970) The more individuals within a unit, the higher chance they win the competition. Furthermore, the more resources available relative to the number of competitors, the lower the aggression rate.</p>	

Previous experience (Adamo & Hoy, 1995; Benelli et al., 2015; Iwasakiandast et al., 2006; Schuett & Grober, 2000)

Animals that previously lost a high-intensity fight encounter tend to display a total suppression of all agonistic behaviour and alter its behaviour from aggression to avoidance.

Dominance status (Iwasakiandast et al., 2006; Saito, 1996)

Inferior animals are more likely to display aggressive behaviour toward unfamiliar subordinate opponents. On the other hand, the dominant animals tend to challenge other animals and force the low-ranking individuals to use territory with lower resource value.

Site fidelity (Greenberg & Noble, 1944; Lerwill & Makings, 1971; Riechert, 1978; Turner, 1994; Wise & Jaeger, 1998)

A resident of the territory has more advantages in terms of agonistic encounters compared to the intruder. They are more familiar regarding to the territory as compared to the intruders, hence, they value the territory more and have higher desire to defend their territory.

Housing condition (Craig & Bhagwat, 1974; Gibso, 1968)

The size of the territory also influences the agonistic intensity. The smaller the habitat, the intensity of the agonistic encounter is lower.

Personality factors (Brick & Jakobsson, 2002; Briffa, Sneddon & Wilson, 2015; Huntingford, 1976; Koolhaas et al., 1999; Pederson, King, & Landau, 2005; Sundström et al., 2004; Wilson et al., 1993).

Animals that are dominance and bold, have the tendency to be more aggressive and win the competition. However, aggressive behaviour is negatively associated with agreeableness and dependability.

Hormones (King, 1973; Ramenofsky, 1984; Kratochvíl & Frynta, 2001; Mora et al., 1996; Schuett & Grober, 2000; Sneddon et al., 2000)

Agonistic behaviour is influenced by internal changes within an organism caused by hormones, genes, or maturation which can lower or increase the intensity of agonistic encounter.

2.4.4.1 External Factors

Food Availability

The amount of the food available within a territory is the primary external factor which has been comprehensively examined. Studies have found that the amount of food available influences the aggression and agonistic levels in animals (Belzung & Anderson, 1985; Drummond, 2000; Southwick, 1967; Thomas et al., 2003). Southwick (1967) conducted studies on monkeys and found that there is a reduction in agonistic interaction when the food supply increased by 25 per cent. The number of hours and the frequency of threatening behaviour, attacks, and submissive responses dropped significantly. Correspondingly, a study on Medaka fish by Magnuson (1961) found that aggressiveness was relatively low when there was excess food supplied. On the other hand, when there was a shortage in the food supply, the frequency of aggressive behaviour increased (Magnuson, 1961). In the case of Medaka fish, all the fish fought among each other to get the food in order to survive. Surprisingly, other

studies have found that the reduction in food supply does not necessarily increase the agonistic encounters in animals (Southwick, 1967; Thomas et al., 2003). Southwick (1967) found that when the food is reduced by 50 per cent, there was a significant decrease in the agonistic encounter from 10.9 hours to 5.9 hours. This phenomenon may be caused by the formation of social hierarchy due to the period of the study. The experiments done by Southwick (1967) were executed for 15 weeks, which allowed the monkeys to form a social hierarchy in the controlled environment. Based on observation, a consistent food shortage will lead to the development of social hierarchy in which large and stronger animals become dominant and grew bigger than the smaller and weaker animals (Barroso, Alados & Boza, 2000; Belzung & Anderson, 1985; Thomas et al. 2003). Monkeys with the highest rank had priority in accessing the food; then the mid-ranking monkeys access the remaining food. Consequently, the low-rank monkeys would have insufficient food. Their vulnerability to aggression caused the low-rank animals to distance themselves from the feeding area in order to minimise dispute with the dominant animals (Belzung & Anderson, 1985). Similarly, Michel et al. (2016) found that the hierarchy strength changes according to the level of the resource availability. Animals rely less on dominance as a mechanism for food acquisition when food is abundant (Michel et al., 2016).

Food Distribution

Studies have found there is a correlation between the distribution of resources and the competitive interaction (e.g. Brown, 1964; Grant, 1993; Warner, 1980). The agonistic encounter increases significantly when the access to food is restricted (Southwick, 1967). In other words, although there is an abundant amount of food available, if the food is all placed in one place instead of evenly distributed to several locations, agonistic encounters will be high. Hence, the role of dominant and subordinate is more visible when the food was unevenly distributed (Magnuson, 1961). The dominant will have a greater advantage as they will be the first to occupy the food, followed by the second rank animal. The subordinate will only get the final scraps which have been thrown away by the dominants. Agonistic behaviour is a result of subordinates trying to obtain food but were prevented by the dominants

Resource Value

Animals are more likely to be more aggressive when they are competing for the high-value resources. A study by Enquist and Leimar (1987) conducted experiments to study the influence of resource value towards the animal competition behaviour. In one of their studies, there was knowledge asymmetry in terms of the resource value between the animals. The owner of the territory had more knowledge about the resource value in comparison to the intruder. Hence, as resource value increases, the length and the cost of the fight increase. This finding was supported by a study by Dimarco and Hanlon (1997) who found that as resource value increases, the competition between male squid escalates with more costly and riskier fighting strategies. Fighting for higher resource value results in longer and more intense agonistic encounters compared to lower resource value (Bergman & Moore, 2003). Similarly, a research by Gabor and Jaeger (1995) found that red-backed salamanders showed more aggressive behaviour when fighting for higher value resource such as termites, in comparison to lower value resource such as ants. Therefore, high-ranking animals generally inhabit a preferred habitat while the low-ranking animals are required to find another habitat (Murray et al., 2007).

Social Unit

The number of competitors or individuals in the unit is one of the predictors of agonistic encounters and in turn, determine the social hierarchy (Boyd, 1953; Black & Owen, 1989; Hanson, 1953; Raveling, 1970). The more individuals in one group, the higher the chance of winning the agonistic encounters. Thus, the order is as follow: large families defeat small families, small families defeat paired adults, and paired adults defeat single adults (Black & Owen, 1989). Furthermore, Grant et al. (2000) presented the variable competitor-to-resource ratio (CRR), which is defined as the number of competitors divided by the number of resource units. Grant et al. (2000) found that there is a dome-shaped correlation between CRR and the intensity of aggression. When CRR is less than one, which means there are more resources available relative to the number of competitors, the rate of aggression is low. Then, the aggression rate increases as the CRR rises to two, the number of competitors are double the size of the resources amount. However, as the CRR increases to more than

two, the competitors are more than twice the amount of the resources, the rate of aggression falls. These findings show that

Previous Experience

The previous experience of agonistic encounters has a high impact towards the animal behaviour for a subsequent fight. After an agonistic encounter, the winners will have the tendency to win again, and the losers will have the tendency to lose again (Benelli et al., 2015). Animals that previously lost a high-intensity fight encounter tend to display a total suppression of all agonistic behaviour for at least 10 minutes, varying for different species (Adamo & Hoy, 1995) They also alter their behaviour from aggression to avoidance (Iwasakiandast et al., 2006). For instance, for up to seven days after the first fight, copperheads are likely to show stress-induced inhibition of aggression and loss of courtship behaviour for more than 24 hours (Schuett & Grober, 2000).

Dominance Status

Inferior males are more likely to avoid unfamiliar dominant and 'naive' opponents. They are more likely to display aggressive behaviour toward unfamiliar subordinate opponents. In other words, the inferior male tends to alter their behaviour depending on the dominance status of the opponent (Iwasakiandast et al., 2006). Dominance rank can also greatly influence individual space use. High-ranking individuals may force low-ranking individuals to use territory with lower resource value (e.g. Japanese macaques, *Macaca fuscata*: Saito, 1996).

Site Fidelity

The term territory, in this case, means 'defended region.' A resident of the territory has more advantage in terms of agonistic encounters compared to the intruder (Greenberg & Noble, 1944). The residents are more familiar with the resources within the territory and, thus, have a higher desire to maintain their core area and refuse to settle elsewhere (Wise & Jaeger, 1998). As previously identified, the higher the value of the territory, their effort in defending the territory will be higher. As a result, they are more likely to show behaviour which portrays offensive postures, threat, and aggression (Lerwill & Makings, 1971). To the blue tit male, for instance, his territory represents the food that he and his mate will need to rear their voracious young

successfully. Territories like this kind are vigorously defended against other members of the species as a male that does not own a territory will not usually be able to breed and can only acquire one by fighting other males for it.

Nevertheless, there is no certainty that the resident will win the competition. The intruder may banish the resident from a territory when they have the fighting capability and body features which outweigh the resident's attributes (e.g. Riechert, 1978; Turner, 1994). Although studies by Lerwill and Makings (1971) found that more than half of the recorded fights were won by the intruders, the result is not conclusive as there are many variables which contributed to the result. Holding other variables equal, most fights are won by residents (Wells, 1978).

Housing Condition

Agonistic encounters are also influenced by the different spatial size and housing method. The experiment by Gibson (1968) in fish suggested that the increased size of the tank floor resulted in a greater level of agonistic behaviour. However, space size also depends on the population density within the space available. Craig and Bhagwat (1974) found that female birds in less-crowded floor pens are more likely to be 30 to 50% more aggressive, while male birds performed 300% more agonistic behaviour than those in crowded cages.

2.4.4.2 Internal Factors

Body Size

Larger size animals have a benefit over smaller ones during agonistic encounters which has been observed in different types of animal such as lizards (Cooper & Vitt, 1987; Tokarz, 1985), geckos (Kratovichil & Frynta, 2002), freshwater crayfish (Pavey & Fielder, 1996; Rubenstein & Hazlett, 1974), snow geese (Cooch et al., 1991), crickets (Nosil, 2002), and copperheads (Schuett, 1997). Larger animals are more likely to emerge as the winner in more than 50% of replicates in all size classes (Pavey et al., 1996). Generally, the agonistic encounter rises as the size of the asymmetry decreases (Pavey et al., 1996). In other words, the closer the size asymmetry between opponents, the agonistic intensity is relatively higher and longer, while the bigger the size asymmetry between the opponents, the period of time spent fighting is relatively short and the chances of serious injury to the combatants is low (Pavey et al., 1996).

The difference in body size interacts with gender and the age of the animals. Juvenile males are more likely to lose in a fight because they are generally smaller than other groups (Pal, Ghosh & Roy, 1998). Therefore, juvenile males are more likely to avoid fights with the older groups (Cooper & Vitt, 1987). Similarly, in terms of gender, the sexually unreceptive female for some species such as hamsters, dogs, and free-ranging dogs is generally aggressively dominant to the male. Since female animals are often bigger and heavier than males, the dominance of the female would be reinforced in random pairings (Payne & Swanson, 1970; Pal et al., 1998)

Body Features

Animals with superior body features have the tendency to display threats or visual signals rather than engage in physical contact (Hillmann et al., 2014). For example, red-backed salamanders adjust their fighting behaviour based on the tail postures of their rivals. Tailed opponents are generally more aggressive towards tailless opponents than the tailed opponents (Wise & Jaeger, 1998).

Personality Factors

Agonistic behaviour is positively associated with dominance and emotionality, and negatively associated with agreeableness and dependability (Pederson et al., 2005). Studies have found that proactive mammals are less sensitive to changes in environmental cues and more aggressive in comparison to reactive animals (Koolhaas et al., 1999). Similarly, bold individuals generally take more risks and are more eager to explore unfamiliar objects than individuals that have been identified as shy (Briffa et al., 2015). Thus, for some species, bold fish are more likely to become dominant compared with shy conspecific fish (Brick & Jakobsson, 2002; Huntingford, 1976; Sundström et al., 2004; Wilson et al., 1993).

Hormones

Agonistic behaviour is also influenced by internal changes within an organism caused by hormones, genes, or maturation which can lower or increase the intensity of agonistic encounter (King, 1973; Kratochvíl & Frynta, 2001; Mora et al., 1996; Sneddon et al., 2000). Plasma levels of testosterone influences fighting success in the initial encounter, prior to the agonistic association (Ramenofsky, 1984). The internal changes can also be influenced by the external environment, specifically alterations

associated with the seasons. During the mating seasons, for instance, the frequency of agonistic encounters is more frequent among males for priority access to females (Schuett & Grober, 2000).

2.4.5 Agonistic Behaviour in Other Disciplines

The study of social behaviour in animals, including agonistic behaviour as a result of competition, has been observed in biological sciences literature for decades (e.g. Allee, 1927; Howard, 1920; Schjelderup-Ebbe, 1922). Numerous research has also been conducted to provide better insights into the theory of agonistic behaviour and agonistic behaviour applications in other disciplines. Although not directly related to the theory of agonistic behaviour, areas such as psychopharmacological studies (Sheard, 1987), cognitive therapy (Acton & Doring, 1992; Schlichter & Horan, 1981), and child development (Brody, Stoneman & Burke, 1987; Goodwin & Roscoe, 1990; Weir & Duveen, 1981) have discussed the concept of aggressive and submissive behaviour.

Likewise, in the context of marketing, common behaviours for animals and consumers can also be observed in competing for goods or services (resources). During Black Friday sales, for example, agonistic behaviour amongst shoppers are often portrayed. Shoppers are constantly reported pushing, rushing, shoving, and shouting at others (Barbaro, 2006; Dawson, 2010). Many shoppers are injured or even killed as they physically compete with other shoppers or were pushed and trampled to the ground (Gould, Trapasso & Schapiro, 2008; Lennon, Johnson & Lee, 2011; Simpson, O'Rourke & Shaw, 2011).

This aggressive behaviour is triggered by the threat created during Black Friday sales (Kristofferson et al., 2016). Firstly, the hugely discounted items (resources) have caused shoppers to perceive the product as higher value (Lennon et al., 2011). Therefore, they are likely to be aggressive in order to get their hands on the product. This behaviour aligns with animal behaviour as they tend to be more aggressive when the resources are higher in value (Enquist & Leimar, 1987). Secondly, Black Friday sales are only available for a limited time, which creates a sense of time scarcity and urgency in consumers' minds (Gierl, Plantsch & Schwiedler, 2008). According to evolutionary theory, individuals are more likely to behave aggressively when survival

resources (such as food or water) are in limited quantity ((Brownfield, 1986; Cohen and Machalek, 1988; Griskevicius et al., 2009; Grossman & Mendoza, 2003; Keller, 1992). Even when a consumer survival is not threatened, consumers have been reported to portray a degree of violent behaviour when they are presented with products that are scarce (e.g. Lennon et al., 2011; Simpson et al., 2011; Smith & Raymen, 2015). As previously identified, every action that is carried out by individuals are motivated by the need to increase their evolutionary benefits (Kenrick et al., 2010) Thus, consumers are more likely to act irrationally as they fear missing out on an excellent deal (Brown, 2001). Lastly, Black Friday sales create market-driven scarcity (Nichols, 2010), whereby the advertised items are offered in limited supply and are available on a first-come first serve basis (Thomas & Peters, 2010). Hence, competition is necessary between shoppers as not everyone will acquire the product. This perceived scarcity has been found to motivate shoppers to strategically map out their plans for their Black Friday shopping by checking the newspaper and the internet for sale advertisements (Lennon et al., 2011; Thomas & Peter, 2010) and queuing outside the store even before it opens (Simpson et al., 2011).

Furthermore, agonistic behaviour can also be observed in both traditional and online auctions (Angst, Agarwal, & Kuruzovich, 2008; Chan, Kadiyali, & Park, 2007; Lee, Kim & Fairhurst, 2009). The thrill of competing against other bidders often gives adrenaline rush to bidders, and, in turn, increases a bidder's willingness to pay in an auction (Ockenfels & Roth, 2006). "Auctions are, by design, a formalised consumer competition" (Nichols, 2010, p65). In fact, a survey by Ariely and Simonson (2003) revealed that 76.8 per cent of respondents treated other bidders as competitors and believed that the bidding outcome is a matter of winning or losing a competition.

These competitive situations are often triggered by three key drivers that exist within an auction situation (Ku, Malhotra & Murnighan, 2005). The first factor is the presence of an audience which increases competition and comparison pressure to encourage agonistic behaviour (Ku et al., 2005; Garcia, Tor & Schiff, 2013). An experimental study on auctions found that the visibility of the audience is more likely to force bidders to stay in the auction longer than those in the control condition (Rafaeli & Noy, 2002). Time-pressure is the second factor which contributes to the increased competition in an auction setting. A study by Adam, Kramer and Muller (2015) found

that bidders' arousal is increased in high time pressure auctions which leads to higher bids as they do not want to lose from the opponents. Last, the number of competitors influences the intensity of the rivalry among bidders. It was found that bidders become more competitive and tend to bid higher when there are few rivals in comparison to when there are many bidders. In order to increase the chance of winning, bidders of online auctions often bid on several items of interest although they only intend to pay for one of the items. To ensure winning, some bidders admit that they often break the website's rules and guidelines by attempting to make transactions directly with the seller (Nichols, 2010). However, participants who are unable to endure the competitive nature of these auctions prefer to retreat from the auction either by using a strategic exit purchase or by leaving (Nichols, 2010).

Despite the similarities between the competitive behavioural patterns of animals and consumers, it has not been well understood in theory. To date, little is known about how agonistic behaviour in animals can be conceptualised within a consumer behaviour context. As such, this research aims to understand how the theory of agonistic behaviour can be applied as the theoretical foundation to understand how consumers perceive and behaviour towards luxury-branded products presented with heuristic scarcity cues.

GAP 2: *There is limited empirical research that applies the theory of agonistic behaviour as an underpinning framework to understand consumer purchase behaviour in a luxury branding context.*

2.5 ACADEMIC LITERATURE ON VARIABLES AFFECTING AGONISTIC BEHAVIOUR

Previous literature on luxury branding and evolutionary psychology have highlighted several key variables which can, directly and indirectly, affect agonistic behaviour in consumers. The following section discusses these variables that have an influence on agonistic behaviour.

2.5.1 Scarcity Effect

Scarcity is a primary driver as to why animals and humans compete for resources. Scarcity refers to the situation in which resources are insufficient to satisfy all our wants (Verhallen, 1982). Consumers' mindsets and decisions change when they feel that the resources are lower compared to needs (Mani et al., 2013; Mullainathan & Shafir, 2013; Shah, Mullainathan, & Shafir, 2012). A study by Knishinsky (1982) found that respondents who were told that there would be a decrease in a supply of beef bought twice the amount of beef compared to respondents were not informed of the decrease. Scarcity effects have also been observed in different products, such as recipe books (Verhallen, 1982), paintings (Lynn, 1992a), and fashion clothing (Szybillo, 1975).

There are a number of reasons as to why this phenomenon occurs. First, consumers have the tendency to assume that scarce products are more expensive as compared to non-scarce products (Atlas & Snyder, 1978; Fromkin et al., 1971; Worchel, et al., 1975). Second, previous research has shown that perceived scarcity positively influences perceived quality (e.g. Chen & Sun, 2014; Wu et al., 2012). Given that scarcity is associated with expensiveness, individuals also tend to view scarce products as high quality (Stock & Balachander, 2005). In many cases, uninformed consumers assume that informed consumers purchase the product due to its high quality (Stock & Balachander, 2005). Third, when individuals feel that their freedom to choose is restricted, they are more likely to react competitively, ignoring even their own personal safety. Although not empirically tested in the consumer context, previous research seems to suggest that resource scarcity promotes competitive behaviour (Fulop, 2004; Griskevicius et al., 2009; Grossman & Mendoza, 2003), which then encourages consumers to make decisions that benefit themselves (e.g. Van Lange et al., 2007).

This behaviour is the evidence of the theory of psychological reactance developed by Jack Brehm (1966). The theory states that whenever a free choice is limited or threatened, the need to maintain freedom increases individuals' desire even more (Brehm, 1966); individuals react against anything that threatens to limit freedom. Since scarce products constrain the freedom of the individual to obtain the product that they wish (Worchel et al., 1975), individuals are more likely to desire products where limitations are placed in anticipation of the losses that may occur from not buying them (Aggarwal et al., 2011). In other words, individuals are more likely to be affected by the thought of losing opportunities than by the thought of gaining opportunities with equal value. Last, there is a significant impact of perceived scarcity on perceived uniqueness (Chen & Sun, 2011). It is logical that products which are expensive and scarce are less likely to be acquired by the mass market, increasing the perceived uniqueness of the products. This is supported by a study by Park, Rabolt, and Jeon (2008), as they found that consumers' need for uniqueness positively influences purchase intention of luxury brands, presenting that scarcity value is an essential aspect for luxury brands. In turn, this causes the perceived value of the products to increase (Lynn, 1991; Szybillo, 1975) and improves product desirability (Fromkin et al., 1974). This leads to a sense of urgency to purchase the product (Aggarwal et al., 2011) and motivates the buyer to purchase the product (Chen & Sun, 2013). As Smith (1776, p172) stated, "the merit of an object, which is in any degree either useful or beautiful, is greatly enhanced by its scarcity. . .".

2.5.1.1 Scarcity Conditions

Scarcity cues have become one of the most popular persuasion heuristic signal in marketing to influence consumers' perception, attitude, and intention to purchase a particular product (Gierl & Huettl, 2010). It has been shown to influence product attitude and preference, psychological change, and purchase intention (e.g. Eisend, 2008; Lynn, 1989, 1992a, 199b; Wu & Hsing, 2008). There are a number of ways to promote heuristic scarcity cues, such as limited time constraints (e.g. for a limited time only) or limited quantity constraints (demand-driven or supply-driven scarcity). Time restricted scarcity is a "deadline tactic" which force consumers to make a decision to purchase before they run out of time. Supply-driven scarcity or demand-driven scarcity is a "limited number tactic" which encourages consumers to purchase before others do.

The different types of scarcity condition mentioned above will result in distinct product valuations which leads to different product choices (Gierl & Huettl, 2010; Stock & Balachander, 2005). This thesis will only focus on scarcity due to limited supply or high demand since they are the most common scarcity cues used within the luxury brand industry (Verhallen, 1982).

Demand Driven Scarcity

Demand-driven scarcity can be signalled with phrases like “90% of our stock sold already” or “due to high demand, nearly sold out”. These phrases indicate that there are a high number of individuals who have purchased the product and, as a result, there is only limited stock available in-store. According to the bandwagon theory, products which are promoted using demand-driven scarcity cues indicate that the products are popular and tend to be regarded as high-quality and superior products (Caminal & Vives, 1996). Surowiccki (2004, 11), in ‘The Wisdom of Crowds,’ stated, “with most things, the average is mediocrity. With decision making, it’s often excellence. You could say it’s as if we’ve been programmed to be collectively smart”. When many diverse consumers make decisions individually, the average of these decisions is more likely point towards better options, remarkably accurately (Van Herpen et al., 2009). As a result, consumers are more likely to perceive popular products as a superior option.

Other than quality perceptions, as stated in the bandwagon theory, when purchasing products highly in demand, consumers are more likely to associate themselves with other buyers and to conform to others (Gierl & Huettl, 2010). This group of consumers, known as ‘followers/seekers’, typically enter the market in the second period and have a higher preference towards the product if more leaders adopt the products (Amaldoss & Jain, 2008). Nevertheless, the opposite may occur in which individuals avoid demand-driven scarcity products as they want to create a personal identity. Individuals want to conform to others but not be identical to them (Brewer, 1991). Owning identical items as relevant others can challenge their personal identity and they may reject products that are too popular in the market. A study by Gierl and Huettl (2010) found that scarcity due to high demand messages works more effectively for non-conspicuous products or private products. These are products which are used or consumed privately and often bought for their functionality instead of wealth

signalling and power (e.g. chocolate, soap bars, deodorant, etc). Since privately consumed products are generally consumed out of public view, the social consequences of purchasing products that are too popular is relatively low.

Supply Driven Scarcity

Supply-driven scarcity occurs when the companies produce a limited number of products, unintentionally (due to limited availability of resources) or intentionally (to create scarcity), which renders the product insufficient to satisfy the market. This occurs under a few different circumstances (Aguirre-Rodriguez, 2013; Gierl & Huettl, 2010). First, the product may be scarce due to the limited availability of raw ingredients, components, or production capacity (Catry, 2003). Second, supply-based scarcity may be managed by companies through “limited editions”, customisation, or limited time scarcity message. Third, supply-based scarcity might be due to technorarity, which includes new innovations, products and features (Catry, 2003). Substantial evidence suggests that limited edition products are offered at a higher price, equipped with unique and rare features as compared to the brand’s regular items (Shin, Eastman & Motherbaugh, 2017). As such, limited edition products are more likely to be associated with high status and a sense of uniqueness (Amaldoss & Jain, 2008).

According to the theory of uniqueness, consumers are more likely to perceive scarce products as unique, distinct, and novel (Jang, Ko, Morris, & Chang, 2015; Szybillo, 1975). As a result, consumers who have a high need for uniqueness often respond to scarce products in a positive manner as they can display their status and be regarded as unique or distinctive (Fromkin, 1970). These group of consumers, called the group leaders usually enter the market earlier due to their taste and social position (Amaldoss & Jain, 2008). Since they want to differentiate themselves from followers, they prefer products which have fewer followers adopting the product (Amaldoss & Jain, 2008). They are more likely to perceive such products as having higher value and are likely to have a higher intention to purchase the product.

Consequently, scarcity due to low supply works more effectively for products which have a high symbolic value and are used to display status and uniqueness, or in other words, conspicuous consumption products or publicly-consumed products. These are

products which are consumed or used publicly with the purpose to impress other people such as mobile phones and laptops (Giert & Huettl, 2010).

Although previous literature has shown that different heuristic scarcity cues result in distinct product valuations which leads to different product choices (Gierl & Huettl, 2010; Stock & Balachander, 2005), these findings cannot be generalised to different product categories, especially luxury-branded products. As previously discussed, luxury brands possess distinct characteristics compared to regular brands as their value lies in their uniqueness, rarity, and the inability of the masses to obtain it (Dubois & Paternault, 1995). Therefore, there is a research gap within scarcity literature in understanding how different heuristic scarcity cues influence consumers' perception and behaviour in the context of luxury-branded products.

2.5.2 Product Types

Different product categories within the luxury branding industry may have different nature and characteristics, which in turn, offer distinct benefits to the user. For example, the benefits received from purchasing a luxurious car (publicly consumed luxury-branded products) cannot be compared to purchasing designer perfume (privately consumed luxury-branded products) or staying in a five-star hotel (luxury experiential service products). As a result, consumers' willingness to acquire a specific product may vary depending on the product categories.

2.5.2.1 Publicly Consumed vs Privately Consumed Luxury-branded Products

As previously, luxury brands are categorised based on the social setting of consumption (Heine, 2012). Publicly consumed luxury-branded products are generally consumed in public view and easily identified by others, while privately consumed luxury-branded products are often consumed in private setting and not seen by others (Bearden & Etzel, 1982; Giert & Huettl, 2010). The two different product types show a distinctly different pattern and provide a different role in signalling and communication.

Publicly consumed luxury-branded products are usually more conspicuous and communicate the positive image associated with the brand. Consumption of these products aim to signal wealth, show power and status, and distinguish oneself from others (Leibenstein, 1950). They also allows the owner to improve their self-esteem

and self-image (Nia & Zaichkowsky, 2000). From an evolutionary psychology perspective, the display of luxury-branded products may result in a more favourable treatment in human social interaction as users are perceived to be of higher status (Nelissen & Meijers, 2011). Women perceive men with luxury brands as more attractive due to the association with high social status (Buss, 1989; Dunn & Hill, 2014), while women who possess luxury brands are perceived to be more attractive, sexy, smart, mature, and ambitious compared to those who do not (Hudders et al., 2014). This improves their overall attractiveness compared to same-sex rivals for companions.

On the other hand, privately consumed luxury-branded products are often less conspicuous (or even invisible to the public). Privately consumed luxury-branded products are commonly used to enhance self-worth and less likely to serve an external signalling purpose (except to intimate associates) (Bian, Haque, & Smith, 2015). Furthermore, privately consumed luxury-branded products are generally offered at a lower price and have higher density distribution in comparison to publicly consumed luxury-branded products. Consumers may also look for more discreet benefits instead of conspicuous benefits, such as the quality of the product (Vigneron & Johnson, 1999; Beverland, 2006) and self-directed pleasure (Silverstein & Fiske, 2003; Tsai, 2005).

2.5.2.2 Material Possession vs Experiential Service Purchases

Other than publicly or privately consumed luxury-branded products, product types can also be categorised based on tangibility, such as in the case of material or experiential purchases. Material possessions are defined as “those made with the primary intention of acquiring a material good: a tangible object that is kept in one’s possession”, while experiential services are defined as “those made with the primary intention of acquiring a life experience: an event or series of events that one lives through” (Van Boven & Gilovich 2003, p1194).

Over the past decade, research has investigated differences between material possession and experiential purchases in providing satisfaction and happiness to consumers (Carter & Gilovich 2010; Nicolao, Irwin, & Goodman 2009; Van Boven & Gilovich 2003; Van Boven, Campbell & Gilovich 2010). The evidence from previous studies has found that experiential purchases lead to greater happiness and

offer more value for money in comparison to material purchases (Millar & Thomas, 2009; Nicolao et al., 2009; Van Boven & Gilovich, 2003).

Experiential purchases are found to increase happiness through satisfying the psychological need of relatedness to others as it enhances social value with others (Howell & Hill, 2009; Van Boven & Gilovich, 2003). Conversations about material items are found to be less pleasant than conversations about life experiences (Van Boven et al., 2010), so individuals have the tendency to share their memories of experiential purchases rather than memories of material items (Carter & Gilovich, 2012). Telling a life story leads to higher social interaction quality (Kumar, Mann & Gilovich, 2014). Moreover, previous research has found that instead of focusing on the extrinsic factors (e.g. lower prices, better value, comparison with others purchases) which are often observed through material consumptions, individuals are more focused on the inherent gratification from the experience itself (Ferraro, Escalas & Bettman, 2011; Van Boven & Gilovich, 2003).

Life experiences also increase happiness because experiential purchases are more difficult to compare than material purchases (Carter & Gilovich, 2012). Material purchases are tangible and publicly visible to others, while experiential purchases are intangible, heterogeneous, and less conspicuous by nature. Moreover, every consumer has a different experience during service encounters due to the high percentage of non-alignable attributes (e.g. the variability of employee attitudes, special services availability, and other consumers' behaviour) which are hard to quantify.

Therefore, unlike material possession purchases, although less affluent consumers mimic brand preferences of the high-class consumers, elite consumers are less likely to react negatively in the luxury hospitality industry in comparison to the luxury goods industry (Yang & Mattila, 2013). This means that the threat of mass luxury is not likely to increase significantly even if luxury experiential purchases go mass.

2.5.2.3 Luxury Hospitality

As evidenced by the number of luxury restaurants worldwide, the luxury restaurant industry has experienced rapid growth in the past decade (Yang & Mattila, 2014). In fact, luxury brands such as Armani, Gucci and Bvlgari are extending into the

hospitality industry in order to connect with their consumers and build brand attachment through unique and multisensorial experience (Godfrey, 2017).

Within the haute couture sector, Bourdieu (1979) stated that the value of the object does not lie in the scarcity of the product, it lies in the scarcity of the person producing it. In other words, the skills and knowledge possessed by the head chef is the scarcity element within a luxury fine-dining restaurant. The head chef holds a symbolic capital of authority in which he/she can authenticate food preparation even if he/she is seldom directly responsible for it.

Extant studies on restaurant attributes found that the critical factors of luxury fine-dining restaurants include both tangible (e.g. food quality, food taste, and exceptional menu items) and intangible qualities (e.g. restaurant atmosphere, ambience quality, frontline competency, and knowledge) (Kwun & Oh, 2006; Njite et al., 2008; Ryu, Lee, & Kim, 2012). Out of all these attributes, several studies have found that food quality (Dutta et al., 2014; Parsa et al., 2012) and service quality (Johns & Pine, 2002; Soriano 2002) are the essential factors in luxury fine-dining restaurants. Exceptional food and service quality provide assurance to restaurant patrons that various aspects of their dining experiences will meet or exceed their expectation (Namkung & Jang, 2008).

Therefore, fine-dining restaurants carefully craft their degustation menu from the start of the dining experience to the end. This is more than just how the food actually tastes but extends to how beautifully dishes are made and how beautiful they are to look at. An haute cuisine luncheon or dinner requires a set of objects and actions as a result of the historical dimension of cuisine; together they stimulate the customer's senses to create a rich sensory experience (Brown & Sherry, 2014). To ensure the success of the operation, luxury restaurants also uses unique ingredients that are scarce or extremely expensive and are not common for consumers to purchase for home consumption (Schjøll & Alfnes, 2017). Although these components are crucial for luxury fine-dining restaurants, the intangibility nature has caused uncertainty or risk to persist (Jun, Kang & Hyun, 2017). For example, the ingredients used at luxury fine-dining restaurants often rely on credence attributes – such as freshness, origin, organic, and quality – to signal their uniqueness (Lamb, Hair, & McDaniel, 2016). This becomes a significant issue because general consumers are often not capable of accurately

evaluating the quality of food and services provided by the restaurants before or even after consumption (Darby & Karni 1973). General consumers have limited knowledge on how to evaluate food or service quality which makes it difficult for them to accurately determine the food and service quality (Jun et al. 2017). Patrons are then exposed to a certain degree of uncertainty which may be more severe in luxury restaurants because of higher transaction costs (Dimara & Skuras 2005). Jun et al. (2017) and Kovács, Carroll and Lehman (2013) found that luxury restaurants benefit from third-party certification to verify that the restaurant meets specific standards. This serves as a quality signal to reduce information asymmetry between consumers and restaurants as well as reducing the uncertainty and risk. Further, in line with the scarcity literature, risk can be minimised by displaying demand-driven scarcity cues as they indicate quality and popularity.

The different nature of product consumption thus raises the question of whether or not scarcity is crucial for privately/publicly consumed luxury-branded products and experiential purchases (specifically, luxury restaurants). The lack of empirical evidence within scarcity literature has underscored the need to explore this further.

GAP 3: *There is limited empirical research which evaluates the most effective heuristic scarcity cues for the specific product types in a luxury branding context.*

2.5.3 Consumer Competition

Competition is an interdisciplinary concept which has been widely applied in evolutionary biology, economics, psychology, sport sciences, and auction behaviour (Frederick, 2000; Fulop, 2004). Competition is defined as the act of seeking to achieve what another is endeavouring to achieve within the same period of time (Mead, 1937). Competition exists within a social setting for all living organisms because a goal is scarce and impossible to be shared (Doob, 1952). A goal accomplishment by a party, often but not always, excludes the remaining individuals from achieving the goal (Deutsch, 1949; Maller, 1929; Stockdale, Galejs & Wolins, 1983). As mentioned, in animals, competition is inevitable and described as the chief component of the struggle for survival and natural selection. Competition among members of the same species is the foundation of Darwin's Theory of Evolution (West-Eberhard, 1979). Similarly, following Goffman's (1982) deprivation-compensation theory, through decades of evolution, competition is an instinct that is hardwired in the human brain which results in actions, neither good nor bad, to help them towards their survival and self-defence (Kohn, 1992). Individuals innate need to survive and to gain evolutionary benefits as compared to others gives permission for individuals to exercise competitive instincts embedded in human nature (Parke, Griffiths, & Irwin, 2004; Nichols & Flint, 2013). As such, based on the trait theory, the need to compete is often classified as a personality trait which varies among individuals and, in turn, influences behaviour. Previous research on consumer competitiveness has conceptualised the construct using the trait theoretic approach (e.g. Angst et al., 2008; Kelley & Stahelski, 1970; Ku et al., 2004; Wang & Netemeyer, 2002).

Grounded by the trait theory approach, Mowen and Spears (1999) developed a new model, the 3M motivation theory, to explain competitive behaviour by including both personality traits and motivations (either internal or external). For instance, competitive attitudes are often motivated by the need to achieve and the desire to win (Murray, 1938; Griffin-Pierson, 1990). This motivation creates an enjoyable feeling for the winning party and allows them to feel a sense of superiority over rivals for limited resources (Hibbard, 2000). This motivates them improve some aspect of themselves and to prove that they are better than others (Riskind & Wilson, 1982; Helmreich & Spence, 1978). As stated in the evolutionary psychology theory and agonistic behaviour theory, competition allows the winning party to achieve

dominance in a social setting. In consumption contexts, the need to defeat others by acquiring a specific product, in itself, is a means to be better than others, regardless of the consumer's actual desire to own the product (Nichols, 2010). For instance, getting a better deal or bargain for an item or obtaining luxury-branded products that are more prestigious than others allows the buyers to feel superior and dominant.

Competitive behaviour may also occur as a response to certain situations, involving rivalry, time-pressure, presence of an audience, and the combination of the three (Ku et al., 2004). Individuals actively seek to gain a superior position as compared to others in different contexts, ranging from daily social situations to market transactions (Festinger, 1954; Podolny, 2005; Porter, 1979). Therefore, within the marketing literature, research has found that individuals are more likely to purchase the product when there is competition/rivalry amongst buyers (Aggarwal et al., 2011). Competition amongst consumers can lead them to perceive others as competitive threats, which in turn, physiologically encourages consumers to be aggressive (Kristofferson et al., 2016). Worchel et al. (1975) conducted an experiment which provides insight towards the importance of competition in acquiring scarce resources. In the experiment, respondents were asked to rate the value of cookies. Ten cookies were placed in a jar, but before respondents were allowed to take the cookies, the jar was switched with another jar which had only two cookies. One group was told that the missing cookies were given to other tasters in the study while another group was told that the researchers initially gave them the wrong jar. The result shows that respondents liked and rated the quality of the cookies higher in the first condition compared to the second condition.

The perception of rivalry does not necessarily always mean an actual presence of other shoppers. The perception of competition can be manipulated using heuristic scarcity cues. Scarcity has been identified as the trigger to competition as it creates significant psychological and physiological reactions in individuals (Nichols, 2011). They are more likely to feel a sense of competition when the stores sell unique or scarce items (Aggarwal et al., 2011). In a retail setting, fast fashion retailers (e.g. H&M and ZARA) have attracted a high number of shoppers and encouraged them to compete for their products by accelerating perceived perishability and scarcity (Byun & Sternquist, 2008). Such retailers implement a deliberately limited supply and a short renewal cycle

in order to create competition among shoppers. Consumers are then highly conscious of other shoppers' behaviour (Byun & Sternquist, 2008) and more likely to hoard an item and keep it for themselves although they are uncertain whether they actually want to purchase it (Byun & Sternquist, 2012). This example showed that human beings are indeed biologically motivated to act when they perceive resources as scarce. Hence, this clearly shows that people want an item more when the products are scarce and when they know that they are in competition with others for the item (Cialdini, 2009).

Despite several theories in explaining why consumers may behave competitively (e.g. deprivation-compensation theory, trait theory, 3M theory of motivation), to date, limited studies have included the perception of competition within their theoretical models. Furthermore, limited studies have identified the role competition plays in the acquisition of luxury-branded products, underpinned by the theory of agonistic behaviour.

GAP 4: *There is limited empirical research that measures the influence of the heuristic scarcity cues on consumers' perceptions of product scarcity and competition in a luxury branding context.*

GAP 5: *There is limited empirical research that evaluates the role of consumers' perceptions of scarcity and competition among buyers in the valuation of luxury brands.*

2.5.4 Submissive Behaviour: Alternative Brands or Neither

As identified in the theory of agonistic behaviour, despite the success of scarcity appeals in increasing desirability and purchase intention ('aggressive' behaviour), product scarcity may also limit the number of buyers or discourage consumers in purchasing the brands they desire ('submissive' behaviour). Those who do not have the ability to purchase scarce items may choose to give up altogether or choose alternative brands that are more affordable and attainable. Alternative brands may include mimic brands and counterfeits of luxury-branded products.

2.5.4.1 Mimic Brands

A mimic brand can be described as a close imitation of a brand in terms of packaging, product concept, and brand name in order to generalize similar brand origin, company origin and attributes (Teah, 2013). The mimic brand is not to be confused with counterfeits as counterfeits products copy the exact design, logo, concept and packaging of the original brand; mimic brands maintain their own brand but share similar characteristics with the original brands (Teah, 2013). There are two types of brand mimicry in the marketplace. The first kind is self-mimicry in which companies produce alternative products to mimic other (often higher end) products that they already own. For example, Accorhotels owns multiple hotels under their portfolio, including Ibis, Ibis Styles and Ibis Budget. The three hotels are similar to one another, yet the three hotels target consumers in different social classes. The second kind is a mimic brand. These mainly occur when products are popular (Teah, 2013). Hence other companies copy and imitate products and sell them at a more affordable price. For example, the increasing popularity of iPhone has caused other phone companies to imitate their design and features to compete in the market. Chinese company, Xiao-Mi for instance, imitates closely the design of the iPhone and sells their products at a lower price point (Gilbert, 2014).

2.5.4.2 Counterfeits of Luxury-branded Products

Another form of the alternative brand are counterfeits of branded products. These are defined as "reproduced copies that are identical to the legitimate articles including packaging, trademarks, and labelling" (Kay, 1990; Ang et al., 2001). Counterfeiting activities have been considered to damage the global economy and are widespread in the fashion industry (Phau & Teah, 2009). Although there are numerous cases of

consumers being deceived into buying mimic or counterfeits products without realising it, many have chosen to purchase mimic or counterfeits brands intentionally (Phau & Teah, 2009). It has been found that consumers have the tendency to choose counterfeits compared to the genuine products when there is a significant price difference between the two (Albers-Miller, 1999; Bloch, Bush & Campbell, 1993). Counterfeit products also work more effectively when they are the copies of a famous brand name that conveys symbolic meaning to the consumers (Cordell, Wongtada, & Kieschnick, 1996), Hence, this emphasises the importance that only brands which are well-known are worth counterfeiting. Tom, Garibaldi, Zeng, and Pilcher (1998) have identified two different types of counterfeit buyers. The first group believes that there are insignificant differences between the counterfeits and the genuine products in terms of quality, brand, and performance. Thus, they regard themselves as wise shoppers. The second group believe that the price differences between the two compensates for the inferior quality and performance of the counterfeits (Ang et al. 2001).

2.5.4.3 Other Possibilities

Another possibility may occur where consumers reject both types of luxury brands and choose neither the elite brand nor alternative brands. Consumers may choose to delay their purchase since they are currently unable to acquire the product. Additionally, some consumers may prefer neither brand to show that they have better claims to status than merely 'buying the label' (Geiger-Oneto, Gelb, Walker, & Hess, 2013). These consumers choose non-luxury brands to make a clear statement that their choice of product is not based on a desire to be associated with materialism in the conventional sense (Geiger-Oneto et al., 2013). Further, others may prefer to display luxury only recognised by those within a small circle for its high price and consequent exclusivity (Han et al., 2010). These types of consumers, the 'patricians', generally possess significant wealth and are more likely to consume inconspicuously branded products that serve as a signal only to other patricians (Han et al., 2010). Although there are various options which may be classified as 'submissive behaviour', this thesis only focuses on mimic brands as the alternative to limit the scope of the study.

GAP 6: *There is limited empirical research that investigates consumers' submissive behaviours in a luxury brands context.*

2.5.5 Personal Factors

Similar to the theory of agonistic behaviour, human beings often assess their internal capabilities prior to making a decision. Individuals often choose not to acquire a particular product if they think that it is beyond their abilities (Bandura, 1977). Further, product valuation and selection is also influenced by the individual's role within the social system (Luszczynska & Schwarzer, 2005). The following provides a discussion on these two personal factors.

2.5.5.1 Self-Efficacy

One of the primary determinants of obtaining specific resources is the individual's internal ability in terms of their knowledge, available financial resources, and time. In interpreting the complex world, individuals make judgments based on their capabilities, foresee the possible outcome of various circumstances and actions, determine socio-structural opportunities and limitations, and control their behaviour accordingly (Bandura, 1989). Although an apparent motivation and influencer of purchase decisions, the role of consumers' self-efficacy in decision-making contexts tends to be overlooked (e.g. Amatulli & Guido, 2010; Bian & Forsythe, 2012; Kim & Ko, 2012; Knight & Kim, 2007; Hung et al., 2011).

The individual's financial situation is highly relevant when buying a product. For instance, sufficient financial resources play an important role in determining individuals' willingness in purchasing products from socially responsible companies (Bray, Johns & Kilburn, 2011; Öberseder, Schlegelmilch & Gruber, 2011). Likewise, in the luxury branding context, individuals perceived limit of luxury purchases rises in line with consumers' age and disposable income (Kapferer & Laurent, 2015). Those who have high financial resources can spend it on expensive luxury-branded items while those who cannot afford luxury-branded items often resort to counterfeit luxury-products as they are more affordable (Phau & Teah, 2009).

Other than financial resources, consumers who have the knowledge in a given product category are less susceptible to the priming of information given by marketers (Deval et al., 2013). In the context of luxury brands, as consumers learn and understand more about different luxury brands, they evaluate the popular luxury brands more negatively as uniqueness-seeking becomes a more important goal (Zhan & He, 2012). The elites sometimes prefer luxury brands which are discreet and only well-known to the highest

social tier. For instance, The House of Goyard, is considered one of the most mysterious luxury brands in the world. The brand is not famous amongst the mass audience as it has minimal advertising and celebrity endorsement; yet its elusiveness is what makes the brand desirable and suitable as a status symbol among the world's wealthiest (Hoffower, 2018).

As such, individuals' self-efficacy should be taken into account as they are important drivers for purchase intention, specifically in the luxury branding context (e.g. Dubois & Duquesne, 1993; Kapferer & Laurent, 2015; Park et al., 2008; Zhan & He, 2012; Phau & Teah, 2009).

***GAP 7:** There is limited empirical research that investigates the influence of self-efficacy on purchase intention in a luxury branding context.*

2.5.5.2 Opinion Leadership - Opinion Seeking

Consumers influence each other in many ways. Consumers often seek information from others who have greater knowledge regarding a product category and may imitate the purchase behaviour and preferences of individuals they admire. In general, opinions from friends and families are often regarded as more trustworthy and credible in comparison to information from commercial sources (Busch & Houston, 1985; Black, 1982; Childers, 1986; Rogers, 1983). In the same vein, some consumers may act as a role model who inspire others to be like them and influence others by providing them guidance and information about a specific product category (Flynn, Goldsmith & Eastman, 1996). Therefore, the social phenomenon of consumers communicating with other consumers regarding brands, products, goods, or services – currently known as opinion leadership and opinion seeking – has been acknowledged and has long been investigated as important factors in product adoption and diffusion (e.g. Chan & Misra, 1990; Childers, 1986; Engel et al., 1969; Flynn et al., 1996; Goldsmith & Clark, 2008; Zaltman, 1965).

The construct of opinion leadership was originally developed by Lazarsfeld, Berelson and Gaudet (1948) and was extended by Katz and Lazarsfeld (1955), Cartwright and Zander (1960) and Rogers (1961). Although there is no consensus for the definition of opinion leadership, the concept of opinion leadership is clearly related to information sharing (e.g. Eliashberg & Shugan 1997; Gilly, Graham, Wolfenbarger, &

Yale, 1998; King & Summers, 1970), influence on others (Flynn et al., 1996; Goldsmith & De Witt, 2003; Rogers & Cartano, 1962), or both (Engel et al., 1969). The fundamental trait of opinion leaders is that they often share advice with other consumers who seek them out as a source of information, giving the opinion leaders an influence over the purchase decisions of others in a specific product category (Flynn et al., 1996). Opinion leaders are willing to put a considerable amount of cognitive effort to gain extensive knowledge of that product or product class (Chan & Misra, 1990). Particularly in the services industry, the role of opinion leaders is highly important. As previously identified, service quality is difficult to evaluate and individuals often rely on other consumers' reviews and testimonials. Opinion leaders also have been found to possess the need for public individuation which involves a willingness to stand out in a group situation (Chan, 1988; Goodwin & Frame, 1989) and being judged by others as being more influential (Taylor et al. 1979). According to the findings by Goldsmith and Clark (2008), opinion leaders in the fashion domain choose to act differently as they are motivated to differentiate themselves from other consumers. They are consumers whose product satisfaction decreases as more consumers acquire the same products (Chan, 1988; Goldsmith & Clark, 2008). By providing advice to others, they have positioned themselves as 'the leader among the herd', thus, differentiating themselves (Bertrandias & Goldsmith, 2006). Based on the identified characteristics of opinion leaders, it becomes clear that opinion leaders within luxury branding context are associated with the high social status individuals who aim to differentiate themselves from the less affluent consumers (Bernheim, 1994). As previously discussed, in evolutionary psychology, high social status individuals have high influence over group decisions and resource allocations (Berger et al., 1980). According to Veblen (1899), high social class members consume conspicuously to differentiate themselves from the members from a lower social class; a behaviour called 'invidious comparison'. They value luxury items only when very few own the items (Kastanakis & Balabanis, 2012).

Opinion seeking is the opposite behaviour to opinion leadership (Goldsmith & Clark, 2008). It has been conceptualised as the subgroup of product information search as opinion seekers tend to look for advice from other consumers who have more knowledge regarding specific product categories prior to making a purchase (Flynn et al., 1996). Opinion leaders cannot exist without opinion seekers, indicating that the

concept of opinion seeking is equally significant. Opinion leadership and opinion seeking are not mutually exclusive behaviours either (Goldsmith & Clark, 2008). In other words, an opinion leader may also be interested to seek and share information from/to others who have the same interest as them. Based on previous literature, opinion seekers are those who actively seek advice from another person who are perceived to be knowledgeable regarding a specific product category (Engel et al., 1990) to reduce purchase risk and to make more need-satisfying purchase decisions (Punj & Staelin, 1983). Especially for conspicuous products, seeking advice from others helps in minimising social risk, hence why many consumers prefer conformity and avoid seeming too different (Bertrandias & Goldsmith, 2006). Another motivating factor in adopting the values and beliefs of the group leaders is due to the desire to be a member of a group (Katz & Lazarfeld, 1955). By seeking advice from the opinion leaders, this shows that the individual appreciates the group's values and beliefs and wants to comply with its norms ((Bertrandias & Goldsmith, 2006). Therefore, they create and reinforce their ties with the group which allows them to improve their social standing (Flynn et al., 1996).

Similarly, in the context of luxury branding, individuals with lower social status have the same behavioural patterns as the opinion seekers. As they do not have the same benefits as high social status individuals, they have the desire to become a high social status individual in order to achieve dominance within a social setting (Berger et al., 1980). They tend to consume conspicuously as an attempt to replicate the consumption behaviours of the higher social class; a behaviour called 'pecuniary emulation' (Veblen, 1899). Their product satisfaction increases as more consumers obtain the product (Becker, 1991; Jones, 1984; Ross, Lepper & Hubbard, 1975). As such, opinion leadership and opinion seeking hold an important role in the luxury branding context. However, despite numerous studies on opinion leadership and opinion seeking in the fashion field (e.g. Goldsmith & Clack, 2008; Bertrandias & Goldsmith, 2006; Phau & Lo, 2004; Workman & Johnson, 1993), limited studies have investigated their impact on purchase intention for luxury experiential products.

GAP 8: *There is limited empirical research that investigates the influence of opinion leadership and opinion seeking on consumers' purchase intention in a luxury experiential purchase context.*

2.6 RESEARCH GAPS

As a summary, research gaps identified in this chapter are:

GAP 1: *There are limited research and theories that explain how heuristic scarcity cues influence consumer purchase behaviour, specifically within a luxury branding context.*

GAP 2: *There is limited empirical research that applies the theory of agonistic behaviour as an underpinning framework to understand consumer purchase behaviour in a luxury branding context.*

GAP 3: *There is limited empirical research which evaluates the most effective heuristic scarcity cues for the specific product types in a luxury branding context.*

GAP 4: *There is limited empirical research that measures the influence of the heuristic scarcity cues on consumers' perceptions of product scarcity and competition in a luxury branding context.*

GAP 5: *There is limited empirical research that evaluates the role of consumers' perceptions of scarcity and competition among buyers in the valuation of luxury brands.*

GAP 6: *There is limited empirical research that investigates consumers' submissive behaviours in a luxury brands context.*

GAP 7: *There is limited empirical research that investigates the influence of consumers' perceived ability and knowledge on purchase intention in a luxury branding context.*

GAP 8: *There is limited empirical research that investigates the influence of opinion leadership and opinion seeking on consumers' purchase intention in a luxury experiential purchase context.*

2.7 RESEARCH QUESTIONS AND OBJECTIVES

2.7.1 Research Questions

Based on the gaps identified in the literature, the following research questions have been proposed:

***RQ 1:** How does the theory of agonistic behaviour explain consumer behaviour when purchasing luxury brands? (Gaps 1, 2)*

***RQ 2:** How do heuristic scarcity cues influence consumers' perception and behaviour for luxury-branded products or services? (Gaps 3, 4, 5, 6)*

***RQ3:** How do self-efficacy and opinion leadership/seeking moderate the relationship between consumers' perception of value and purchase intention for luxury-branded products or services? (Gaps 7, 8)*

2.7.2 Research Objectives

Based on the above research gaps and research questions, the proposed research objectives are outlined below:

***RO1:** To conceptualise the theory of agonistic behaviour into marketing by identifying equivalents between two different disciplines, biology and marketing, using real-life marketing examples.*

Research Objective 1 (RO1) addresses Research Gap 1, and observes the need to develop a clear concept of agonistic behaviour in consumer purchasing behaviour within the luxury branding context. In this chapter, the different factors influencing the occurrence and intensity of agonistic behaviour has been identified. The next chapter, Theoretical Development and Hypothesis Development, will identify how the different factors can be applied to different marketing theories and examples.

***RO2:** To develop a theoretical framework that explains the consumer purchase behaviour within the luxury branding industry as underpinned by the theory of agonistic behaviour.*

Research Objective 2 (RO2) addresses Research Gap 2, and aims to construct a theoretical framework, as underpinned by the theory of agonistic behaviour, to

understand consumer purchase behaviour for luxury brands. Following the theory of agonistic behaviour, the framework takes into account the possibilities of consumers choosing to be submissive and purchase alternative brands.

RO3: *To determine the relative effect of the different heuristic scarcity cues (supply-driven, demand-driven, and control condition) on the perception of product scarcity and competitiveness in a luxury branding context for a specific product type displayed (public, private or experiential service products).*

Research Objective 3 (RO3) addresses Research Gaps 3 and 4, and will be addressed in Chapter 5 (Publicly consumed luxury-branded products), Chapter 6 (Privately consumed luxury-branded products), and Chapter 7 (luxury experiential services). In every study, there are three between-subjects experimental conditions (scarcity conditions: demand-driven, supply-driven, control) in which perceptions of scarcity and competition will be measured and compared.

RO4: *To evaluate the influence of perceived competition and scarcity on perceived value which, in turn, influences purchase intention in a luxury branding context for a specific product type displayed (public, private or experiential service products).*

Research Objective 4 (RO4) addresses Research Gaps 3, 5, and 6, and will be discussed in Chapter 5 (Publicly consumed luxury-branded products), Chapter 6 (Privately consumed luxury-branded products), and Chapter 7 (luxury experiential services). Multi-group Structural Equation Modelling (SEM) will be conducted to examine the relationships. To measure purchase intention, non-fictitious brands are selected as stimuli for both elite brand (aggressive behaviour) and alternative brand (submissive behaviour).

RO5: *To examine the role of self-efficacy in moderating the relationship between perceived value and purchase intention in a luxury branding context for a specific product type displayed (public, private or experiential service products).*

Research Objective 5 (RO5) addresses Research Gaps 3 and 7, and will be discussed in Chapter 5 (Publicly consumed luxury-branded products), Chapter 6 (Privately consumed luxury-branded products), and Chapter 7 (luxury services). Self-efficacy will be included as part of the base model and analysed using interactions in SEM.

RO6: *To investigate the three-way interaction between perceived value, opinion leadership/seeking, and self-efficacy on purchase intention for the luxury experiential service product.*

Research Objective 6 (RO6) addresses Research Gaps 3 and 8, and will be discussed in Chapter Seven (luxury experiential services). Once the theoretical framework has been developed and validated in Chapter Five and Six, opinion leadership and opinion seeking constructs are added as moderators. A three-way interaction between perceived value, opinion leadership (leaders or seekers) and self-efficacy, will be conducted in SEM.

2.8 CONCLUDING COMMENTS

The present chapter provided a thorough literature review on luxury branding as it serves as the context of this study. The theory of agonistic behaviour was also introduced to elaborate on the theoretical foundation of this research. The chapter identified four key constructs which may influence the agonistic behaviour in a luxury consumer context. These include perceived scarcity, perceived scarcity, perceived ability and knowledge (self-efficacy), and opinion leadership/opinion seeking.

The following chapter will address the first and second research objectives. The chapter will extend the theory of agonistic behaviour from biological sciences to marketing. It will also develop the theoretical framework applied in this thesis and the hypotheses relating to the proposed relationships between the constructs identified.

CHAPTER THREE

THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

3.1 INTRODUCTION

The previous chapter reviewed the theory of agonistic behaviour in detail to include the stages of agonistic behaviour as well as the factors influencing agonistic behaviour. Drawing parallels to a consumer context, the chapter also discussed other key constructs which may influence agonistic behaviour in the consumption of luxury brands. Based on the in-depth literature review, this chapter applies the theory of agonistic behaviour in the examination of consumer behaviour towards scarce products, specifically, in the luxury branding context. Furthermore, underpinned by the theory of agonistic behaviour, this chapter also develops a theoretical model and the subsequent hypotheses tested in this research. Each hypothesis is discussed in detail and outlined in tabular form at the end of the chapter.

3.2 PARALLELS OF THE AGONISTIC BEHAVIOUR BETWEEN ANIMAL AND CONSUMER BEHAVIOUR

Based on the literature review on the theory of agonistic behaviour in the discipline of biological sciences identified in the previous chapter, a similar pattern can also be observed in how consumers obtain scarce resources (e.g. Confer et al., 2010; Cummins, 2005; Saad, 2007). Hence, parallels to marketing will be discussed in this section using examples to highlight the conceptual and practical relevance of agonistic behaviour in consumer behaviour.

3.2.1 The Parallels of the Agonistic Behaviour Stages in Consumer Behaviour Context

In the first stage of agonistic behaviour, *threat*, animals perform species-specific behaviours which aim to scare and threaten opponents (McGlone, 1986). Similarly, in a consumer behaviour context, the ‘battle of the fittest’ often occurs during the Black Friday sales. In order to get ahead and be able to acquire desired products, competitive (and often misbehaving) shoppers can be seen running and pushing to get in the store (Nichols 2010). Shoppers often shout at the store employees and make nasty comments or other customers to intimidate them (Lennon et al., 2011; Raymen & Smith, 2015).

In the consumer context, the threat may not always involve physical intimidation. In more civilised competition situations, a study by Kristofferson et al. (2016) has shown that marketplace aggression is not always triggered by perceived human crowding within a store, but it can also be activated beforehand, at the point of exposure to an advertisement. When an advertisement promotes a product as “nearly sold out”, this gives a signal that a lot of people demand the product. Consumers may then perceive this as a threat as the product is limited and the competition levels are high. Likewise, consumer may perceive a threat when a product is promoted to be “limited editions” as this imposes that there are limited individuals that may ultimately have the products. For example, when Louis Vuitton released the limited edition ‘Cherry Blossom’ Murakami handbag, thousands of consumers rushed to place themselves on the waiting lists for the handbag in Louis Vuitton stores around the world (Radon, 2012). Hence, as seen in Figure 3.1, a threat can be elicited through exposure to heuristic scarcity cues, either it is supply-driven or demand-driven scarcity cues.

Figure 3.1: Examples of Threats through Scarcity Cues



Viktor & Rolf's Flowerbomb Swarovski Edition, \$2500

Viktor & Rolf first created its iconic grenade shaped bottle in 2005, and has launched different versions ever since. Its most luxurious - and expensive - edition is shown above. Flowerbomb Swarovski, priced at \$2,500, is adorned with more than 2,000 glistening hand-applied crystals. Only 9 of these special bottles were available in the U.S. during the 2015 holiday season at Neiman Marcus, and it has sold out every year since this glamorous edition first launched in 2013.

Limited edition Victor & Rolf's Flowerbomb Swarovski Edition; only 9 pieces were produced in 2015 (Redding 2016)



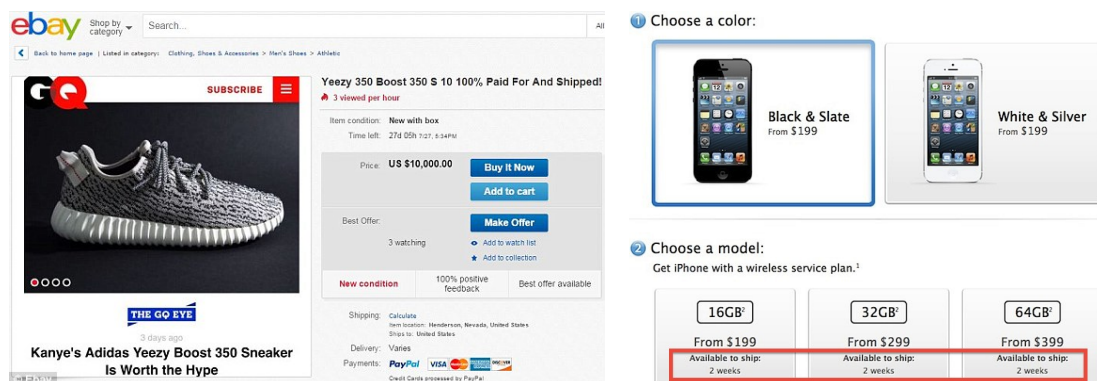
TAG Heuer Formula 1 in Amazon UK was almost sold out (Amazon 2015)

In the second stage, **aggression** is defined as species-specific behaviours associated with attack (McGlone, 1986). Although agonistic encounters generally occur in order to obtain resources for survival, aggressive responses to scarcity in consumer behaviour context may happen not only to resources essential for survival (e.g. food or shelter), but also in resource-rich consumer environments. Using the Black Friday sales as an example, shoppers sometimes demonstrated aggressive behaviour by grabbing merchandise out of other shoppers' carts or hands to acquire the products they want (Lennon et al., 2011). Some customers even physically fight with other customers to attain their desired products (Lennon et al., 2011).

Aside from physical violence, any non-physical behaviours that indicate an 'attack' with the aim to obtain the desired product may also be classified as aggressive behaviour. There are different non-physical aggressive behaviours that consumers often do to obtain the product they desire. First form of non-physical aggressive behaviour is shown through an individual's willingness to pay more to obtain the products that they desire. In 2015, the Kanye West x Adidas Yeezy limited edition sneakers was sold out within 15 minutes of its release. As seen in Figure 3.2, the sneakers (originally priced for \$200 a pair in retail stores) were found to be subsequently offered at \$ 10,000 on Ebay (Tempesta, 2015). Some consumers were even willing to pay up to £20,000 for a pair of these trainers (London, 2015). Second,

some consumers may arrive early before the store opened to secure a spot in a queue. For instance, at a Foot Locker store on Oxford Street, London, only 50 pairs of the Yeezy Boost 350 Adidas model were available. Yet, hundreds of people queueing for over two days for the shoes (London, 2015). The people in the queue were reported to have travelled long distances to get a pair of the new trainers. Third, consumers have also been found to take items and keep them for themselves while shopping although they are uncertain whether or not to purchase (Byun & Sternquist, 2012). Last, some consumers may pre-order the items as soon as it is launched. When Apple launched the pre-order opportunity for its new iPhone, it is sold out within a short period of time. It took approximately 20 hours for the iPhone 4 to sell out of its pre-order launch day stock (Gallagher, 2012), while iPhone 5, it took only approximately one hour to sell out after pre-orders went live (Gallagher, 2012). As seen in Figure 3.2, the shipping window for iPhone 5 was then moved back by two weeks due to the high product demand.

Figure 3.2: Aggressive Behaviour in Consumer Context



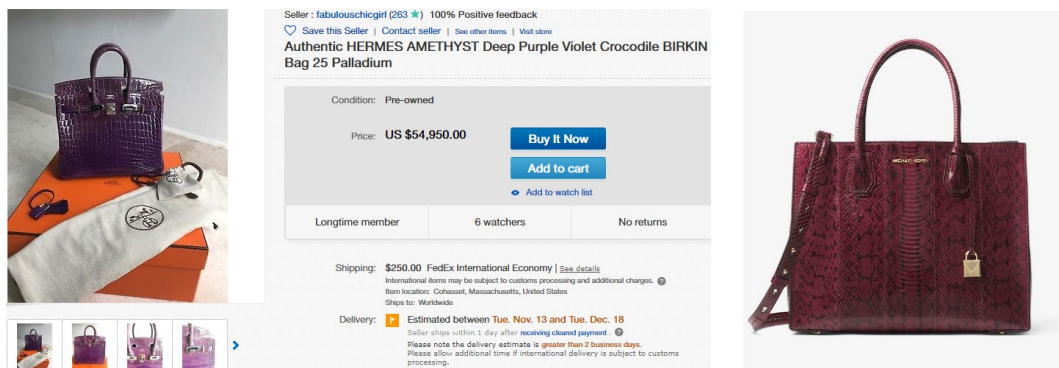
Kanye West x Adidas Yeezy limited edition trainer shoes on Ebay 50x more than the original price (Tempesta 2015)

iPhone 5 pre-order sold out in an hour and the shipping window was moved back by 2 weeks (Gallagher 2012)

On the other hand, some customers may choose to purchase alternative products instead of pursuing the desired products. Some may also prefer to delay their purchase and wait until the next opportunity arises. This behaviour is conceptualised as the third stage of the agonistic behaviour, the *submission* stage. Submissive behaviour occurs following either a threat or an aggressive encounter (McGlone, 1986). It includes species-specific behaviours that indicate the intention to retreat and withdraw from the fight. Thus, the animals who choose to submit do not get the resources and are forced

to find alternative resources to survive. In consumer behaviour context, the submissive party is the individuals who does not acquire the desired product. They may then decide to purchase an alternative item as a form of compensation or choose to not purchase neither the desired nor alternative products. For instance, the Hermès Birkin handbag is known for its exclusivity and scarcity. Purchasing a Birkin directly from Hermès stores is almost impossible as the bags are often out of stock and there are waiting lists that can stretch for up to six years. Therefore, as seen in Figure 3.3, many consumers settle for pre-loved Hermès Birkin bags, choose a different type of Hermès bags, or even purchase a different brand altogether that may resemblance the Birkin bag. Alternatively, some may decide to delay or do not make any purchases at all as a form of submissive behaviour.

Figure 3.3: Submissive Behaviour in Consumer Context



Hermès Birkin pre-owned as an alternative option for consumers (Ebay 2018)

Michael Kors handbag as a 'lookalike' alternative to the iconic Birkin bag (Morlock 2018)

3.2.2 The Parallels of the Key Themes Influencing Agonistic Behaviour in Consumer Behaviour Context

In the previous chapter, factors that influence the agonistic behaviour in animals, both internal and external, were discussed. As seen in Table 3.1, all those factors may be categorised into four key themes. The key themes are discussed in the following paragraphs along with how it is reflected in consumer behaviour.

Table 3.1: Key Themes Influencing Agonistic Behaviour

Internal Factors		External Factors	
Body Size and Attributes	Personality and Hormone Factors	Social and Environment Factors	The Scarce Resources
Body size (Brown et al., 2006; Cooper & Vitt, 1987; Cooch et al., 1991; McDonald et al., 1968; Payne & Swanson, 1970; Schuett 1997; Thomas et al., 2003; Wise & Jaeger, 1998)	Shy-Bold Continuum (Rudin & Briffa, 2012; Schjolden et al., 2005)	Competitors level (Grant et al., 2000)	The amount of resources available (Drummond, 2001; Kidjo et al., 2015; Michel & Strickland, 2016; Southwick, 1967)
Gender and age (Adamo & Hoy, 1995; Pal et al., 1998; Southwick, 1967)	Dominance and Emotionality (Pederson et al., 2005)	Group size (Batchelor & Briffa, 2010; Black & Owen, 1989; Hughes & Wood-Gush, 1977)	
Tail autotomy (Wise & Jaeger, 1997)	Agreeableness and dependability (Pederson et al., 2005)	Dominance status (Belzung & Anderson, 1986; Iwasakiandast et al., 2006)	The value of the resources (Bergman & Moore, 2003; Enquist & Leimar, 1987; Mohamad et al., 2010; Sneddon et al., 1997)
Butting and Horning (Menke et al., 1999; Hillmann et al., 2014)	Sexual dimorphism (Kratochvíl & Frynta, 2002)	Site fidelity (Greenberg & Noble, 1944; Lerwill & Makings, 1971; Riechert, 1984)	
Vocalisation (Hengmüller & Ladich, 1998; Ladich, 1997; Wells, 1978)	Testosterone (Schuett et al., 1997; Schuett & Grober, 2000; Ramenofsky, 1984)	Housing Condition (Gibson, 1967; Hetts et al., 1992; Hughes & Wood-Gush, 1977)	The distribution of the resources (Magnuson, 1962; Pruetz & Isbell, 2000)
Flank and vaginal marking (Johnston, 1977)	Endocrine (Mora et al., 1996)	Environmental conditions (Bohórquez-Herrera et al., 2014; Gherardi et al., 2013)	
	Three amines (dopamine, octopamine and 5-HT) (Sneddon et al., 2000)	Previous experience (Adamo & Hoy, 1994; Benelli et al., 2015; Pal et al., 1998; Castro et al., 2012)	

The first key theme is *body size and attributes*. Studies have found that animals with large body size and superior body attributes are more likely to be aggressive and win the fight as they tend to be stronger (Schuett, 1997; Wise & Jaeger, 1998). Furthermore, studies have also found that gender and age are correlated with agonistic behaviour (Adamo & Hoy, 1995; Pal et al., 1998). Adult female animals are more likely to be aggressive than other groups, such as juvenile and even an adult male (Pal et al., 1998). Adult females generally have larger body sizes and more fight experience, and are thus, more powerful compared to other groups (Schuett, 1997). In the consumer behaviour context, although animals with large body size and threatening physical attributes are more likely to be aggressive and win the fight, this may not always be the case when consumers compete for resources (in this case, the desired products that they wish to own). As identified previously, threats and aggressive behaviour does not always result in physical violence. Particularly, in most shopping scenarios, physical violence is often perceived as inappropriate, unnecessary and often does not manifest. Instead, superior body size and attributes can be reflected in consumers' available resources, such as financial, knowledge, skill and time resources. Consumers who have the necessary financial capability, skills and time are more likely to be aggressive and able to acquire the desired products (Oberseder et al., 2011). To exemplify this, reflect on an auction setting. Individuals who are more likely to win are those who bid the highest price, possessing sufficient willingness and spending power to get the object they desire (Angst et al., 2008; Nichols & Flint, 2010).

The second key theme is *personalities and hormones* (Pederson et al., 2005). Agonistic behaviours are positively associated with dominance and emotionality (Kidjo et al., 2016), while it is negatively correlated with agreeableness and dependability (Pederson et al., 2005). Likewise, consumers who have low dominance and low self-esteem are related to submissive behaviour (Cheung et al., 2004; Gilbert, 2000; Gilbert & Allan, 1994). Self-esteem is a measurement of self-concept of what one is and what one can become, while competition is a measurement of one person's success over another (Mincemoyer, 1994). Individuals with low self-esteem tend to be critical of themselves, while the individuals with high self-esteem are more likely to think that they are more capable than others. As a result, high self-esteem is highly related to competitiveness (Rosenberg, 1965).

Furthermore, in comparison to bold animals, it was found that shy animals show low levels of aggression, more precaution, do not develop routines, and are more flexible in their behaviour towards challenging stimuli (Schjolden et al., 2005). Further, hormonal changes within the organism, caused by either internal or external changes, can lower or increase the intensity of agonistic behaviour (King, 1973). Similarly, in the consumer behaviour context, individuals who are bold and competitive are more likely to fight in order to get the products they want. In an internet auction, for instance, bidders with high competitive traits have a greater tendency to participate in bidding for desired products as compared to choosing a strategic exit with a fixed price (Angst et al., 2008; Nichols & Flint, 2010). Individuals with a strong competitive trait are also more likely to pay more than the product is worth in order to beat rival bidders (Cox, Smith & Walker, 1992). In contrary, the less competitive individuals are also more likely to retreat from the auction by walking out from acquiring the desired items altogether (Nichols & Flint, 2010).

The third key theme is *social and environment factors*. The number of the competitors influences the intensity of agonistic encounters. Studies found that the rate of aggression followed a dome-shaped curve; aggression is low when the number of the competitors are perceived to be low and increases as the number of competitors rises. As competitors are perceived to be higher, the aggression rate of animals decreases (Grant et al., 2000). In the consumer behaviour context, the level of aggressiveness varies depending on the number of competitors. For instance, in an auction situation, the number of bidders competing for one object influences the intensity of the auction. Bidders are more likely to offer more when there are only few other bidders remaining in the auction, but tend to bid small amounts and are more likely to submit from the auction when there are too many bidders (Ariely & Simonson, 2003; Ku et al., 2005). It is also important to note that, in a consumer context, perceived competition is not necessarily only induced by the mere presence of other consumers. Previous studies have suggested that, regardless of competitor visibility, the perception of competition among consumers can be induced by marketers through heuristic scarcity cues (Aggarwal et al., 2011; Grossman & Medoza, 2003). For instance, Sony's 500 Million limited edition PS4 Pro (only 50,000 units produced) were completely sold out within minutes after going on sale on August 24, 2018 (Wallace, 2018). This example demonstrates that when products are advertised with scarcity cues, individuals are

more likely to be competitive due to the threat posed by scarcity cues and their desire of owning scarce products (Aggarwal et al., 2011; Nichols 2010, 2012).

Site fidelity is also another social factor influencing agonistic behaviour. A resident of the territory has more competitive advantage compared to an intruder because they are more familiar with the site and resources within the territory. Thus, the resident has a higher desire and are likely to fight more aggressively to keep and protect their defended region. Likewise, in consumer behaviour context, a consumer behaves more aggressively to acquire a specific product if they love and feel attached to the brand/product category. These consumers also often serve as opinion leaders who are knowledgeable in specific product categories making them as influential to other consumers. For instance, since its launch, the brand Supreme has become a global icon of style and street culture, with collections and collaborations encompassing at, music, film, and fashion. Supreme has a large loyal consumer base who are devoted to the brand and collect Supreme products (Clifton, 2016). When the streetwear label Supreme collaborated with LVMH-owned luxury luggage brand Rimowa, their limited edition of the aluminium case luggage in red sold out in 16 seconds, while the black sold out in 34 seconds after they were released (Nembhard, 2018).

Previous experience also an important social determinant for agonistic behaviour (Adamo & Hoy, 1994; Benelli et al., 2015; Pal et al, 1998; Castro et al., 2012). After an agonistic encounter, the winners will have the tendency to win again, and the losers will have the tendency to lose again (Benelli et al., 2015). In the consumer context, as previously mentioned, Hermès Birkin handbag is exclusive and scarce. Although obtaining an Hermès Birkin handbag is extremely difficult, consumers who are highly ranked by Hermès (based on previous purchases and reputation with the company) are able to acquire Birkin handbag much easier compared to first time Hermès customers with no previous purchase record. Consumers' aggressiveness and submissiveness is also highly dependent on their familiarity towards the product (Chan et al., 2007).

The last key theme is *the scarcity of resources*. The amount of resources available influences the occurrence of agonistic encounters (Southwick, 1967). For example, the frequency of aggressive behaviour increases significantly when the food availability is reduced (Magnuson, 1962). Similarly, when there is a shortage in resources or products, consumers fear losing out and missing the chance of obtaining products

(Byun & Sternquist, 2012). For example, Nintendo, deliberately limits the availability of its video games in order to increase demand (The New York Times 1989). Similarly, in 2000, Sony's Playstation 2 was one of the most popular consumer electronics due to both product functionality and its limited availability (Stock & Balachander, 2005). Further, consumers tend to be aggressive when the products are perceived to be more valuable (Chan et al., 2007).

Moreover, the value of the resources also has an impact on the agonistic interaction. The more valuable the resources, the higher agonistic behaviour will be (Bergman & Moore, 2003; Enquist & Leimar, 1987; Southwick, 1967). In the consumer context, for instance, supercar brand Aston Martin's DB series, has long been associated with the James Bond franchise. The car, driven by Sir Sean Connery as James Bond 007 in *Goldfinger* and *Thunderball*, was sold at auction for £2.6 million in 2010 ("The Guardian", 2010); it was the most expensive piece of Bond memorabilia ever sold (Marsh, 2018). In fact, due to its value and heritage, Aston Martin is reported to be reissuing a limited edition 'James Bond DB5' which will cost the equivalent of AUD 4.8m before taxes (Collie, 2018).

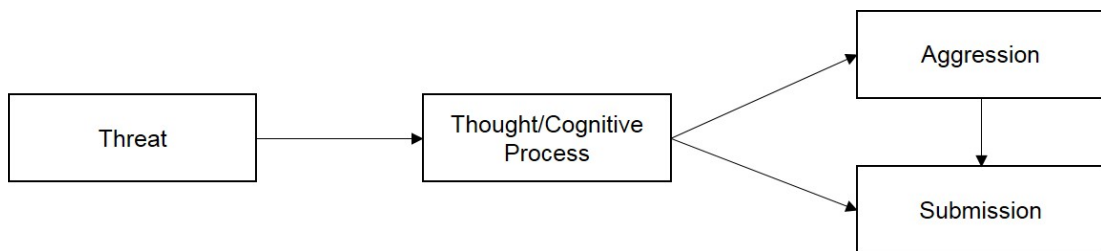
3.3 THEORETICAL FRAMEWORK

The previous section has demonstrated the parallels between animal and consumer behaviour when competing for scarce resources, as underpinned by the theory of agonistic behaviour. This section aims to develop a research model to explain the theory of agonistic behaviour in the context of consumer behaviour within luxury branding industry.

3.3.1 The Underpinning Theoretical Framework

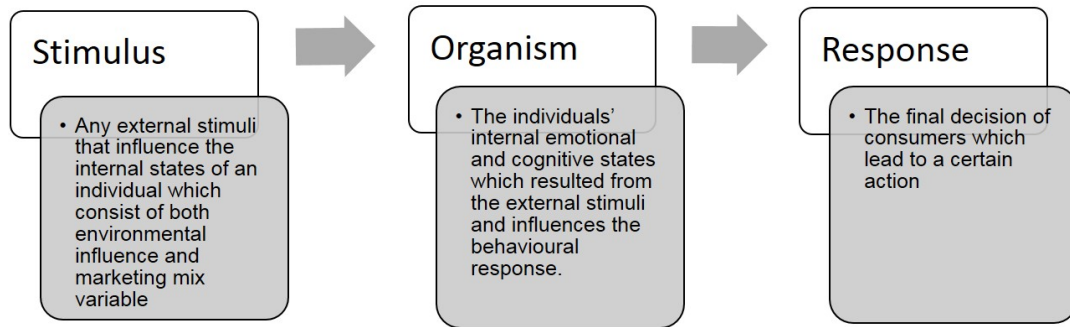
Figure 3.4 demonstrates the framework of the theory of agonistic behaviour which serves as the biological theory which explains animal and human behaviour when competing for scarce resources.

Figure 3.4: Theory of Agonistic Behaviour Framework



However, to operationalise the theory in the context of consumer behaviour towards luxury products, the S-O-R model is also applied for the purposes of the current study. The S-O-R model offers a suitable theoretical framework to support the theory of agonistic behaviour due to similarities between the two theories. Similar to the theory of agonistic behaviour, the S-O-R model consists of three elements to provide a general framework in explaining an individual's action. The three elements are stimulus, organism, and response (Mehrabian & Russell, 1974). Developed by Mehrabian and Russell (1974), the S-O-R model has been widely applied in retail environments (Buckley, 1991; Chang et al., 2011; Donovan & Rossiter, 1982) and for products with different levels of involvement (Arora, 1982). The S-O-R model has also been adopted as a framework to understand consumers' impulsive purchase behaviour resulted from the scarcity effect (Chang et al., 2011). Figure 3.5 demonstrates the general framework of the S-O-R model.

Figure 3.5: The S-O-R Model



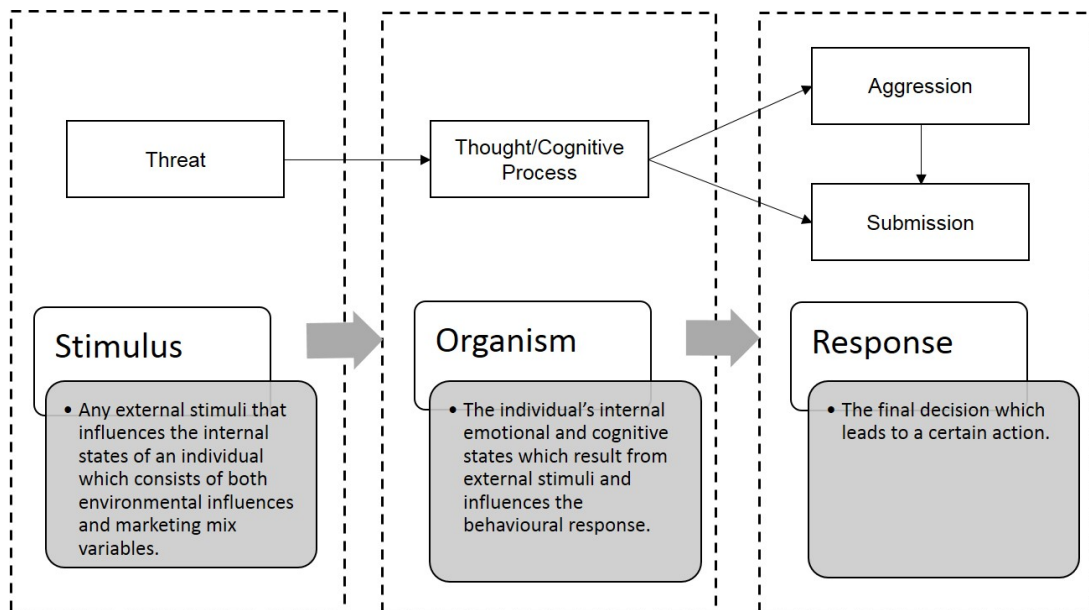
Stimulus (S) is defined as any external stimuli or situation that influences the internal state of an individual and consists of both environmental influences and marketing mix variables (Bagozzi, 1986; Eroglu et al., 2005). Similarly, referring to the theory of agonistic behaviour, when the resources are perceived to be scarce, animals perform species-specific behaviour to threaten their opponents or physically fight. These behaviours are formed based on environmental influences (in this situation, the scarcity of resources). This stage, according to the theory of agonistic behaviour, is called the 'threat.' This first stage of the agonistic behaviour, threat, can be argued to align with the stimulus (S) component in the S-O-R model.

Organism (O) is defined as the individual's emotional and cognitive states which results from a reaction to external stimuli and influences the behavioural response (Bagozzi, 1986). Similarly, according to the theory of agonistic behaviour, the threat of limited resources and other competitors prompt animals to undergo a thought process which determines whether they fight or submit. Therefore, the organism (O) component of the S-O-R model can be compared to the cognitive process in the theory of agonistic behaviour.

The individual's internal states (O) then leads to behaviour action, which is the response (R). Similarly, in the theory of agonistic behaviour, animals make a final decision whether they will fight or submit following a cognitive process. If both parties choose aggression, they fight until one of them submits. As such, the decision to either be aggressive or submissive behaviour can be equated to the response (R) in the S-O-R model.

For the purposes of this study, the ‘stimuli’ is operationalised as the threat; the ‘organism’ is operationalised as the consumer’s cognitive process (perception of value); and the ‘response’ is operationalised as the choice between aggression and submission (purchase intention of either desired/elite brand, alternative brand or neither), as shown in Figure 3.6.

Figure 3.6: The S-O-R Model with the Stages of Agonistic Behaviour



3.3.2 Supporting Theories

A number of supporting theories are used to support the theory of agonistic behaviour as operationalised by the S-O-R model. These supporting theories include the psychological reactance theory, commodity theory, theory of uniqueness, bandwagon effect, social cognitive theory, and social comparison theory. The following discusses the identified supporting theories.

3.3.2.1 Psychological Reactance Theory

According to the *psychological reactance theory*, developed by Jack Brehm (1966), whenever free choice is limited or threatened, individuals may experience psychological reactance. This is a motivational state where individuals are pressured to re-establish their threatened freedom (Brehm, 1966; Heilman & Toffler, 1976; Pratkanis & Farquhar, 1992). The display of reactance includes any behaviour which aims to restore the freedom in question (Brehm, 1966; Chandler, 1990). The magnitude of reactance is directly related to how convinced the individuals were that they had the

freedom before it was threatened and their ability to restore the freedom (Chandler, 1990). Supporting this, research has also shown that reactance is positively correlated with perceived self-efficacy and self-esteem (Brockner & Elkind, 1985; Wicklund & Brehm, 1968). Individuals tend to be predominantly sensitive to psychological reactance when they believe that they are worthy of having and capable of sustaining the freedoms.

If the behaviour cannot be directly restored, the individuals rate the eliminated behaviour as more attractive than previously (Brehm & Cole, 1966; Lessne & Notarantonio, 1988; West, 1975). Consistent with this notion, previous studies have demonstrated that elimination of a choice object leads to more positive ratings of the object (Brehm & Cole, 1966; Hammock & Brehm, 1966). For instance, when the residents in Miami were told that phosphate detergents were banned from the market, Miami residents evaluated the product more favourably in comparison to the residents in Tampa where phosphate detergents were still available (Mazis & Settle, 2012).

3.3.2.2 Commodity Theory

Commodity theory was developed by Brock (1968) and deals with the psychological effects of scarcity. The principle behind commodity theory suggests that rare commodities have relatively higher value and desirability compared to non-scarce products (Byun & Sternquist, 2012; Lynn, 1991; Szybillo, 1975; Wu & Hsing, 2006; Van Herpen et al., 2009). Commodities are anything that meet the following criteria: (1) commodities must be useful and provides some utility to the buyer (Lynn, 1991); (2) they should have an initial level of desirability to have its effect (Eisend, 2008); and (3) they must have the potential to be possessed and transferred from one person to another (Lynn, 1991). Based on commodity theory, consumers are more likely to appreciate and purchase scarce products compared to products which are widely available (Aggarwal et al., 2011; Wu et al., 2012). This notion has been investigated on different types of commodities, including toothbrushes (Inman, Peter, & Raghurir, 1997), fast foods (Brannon & Brock, 2001), batteries (Pratkanis & Farquhar, 1992) and psychedelic experiences (Fromkin, 1970).

However, commodity theory, does not explain why scarcity enhances product value. Different scarcity messages (demand-driven vs. supply-driven) and product categories (public, private vs. services) result in differing reasoning and benefits. There are two

theories that explain why scarce products are more appealing than non-scarce products, namely the *bandwagon effect* and *theory of uniqueness*.

3.3.2.3 *Bandwagon Theory and Theory of Uniqueness*

The term *bandwagon effect* was first introduced and made popular by Leibenstein (1950). It refers to “the extent to which the demand for a commodity is increased due to the fact that others are also consuming the same commodity” (Leibenstein, 1950, 189). According to the theory, when consumers are uncertain about product value, they have the tendency to choose products which have been chosen by other consumers (Leibeinstein, 1950). There are a couple of reasons why bandwagon effects may occur. First, popular products are perceived to have better quality in comparison to non-popular products. Surowiecki (2004, p11), in ‘The Wisdom of Crowds,’ stated, “with most things, the average is mediocrity. With decision making, it’s often excellence. You could say it’s as if we’ve been programmed to be collectively smart.” When many diverse consumers make decisions individually, the average of these decisions is more likely point towards better options and remarkably accurate (Caminal & Vives, 1996; Parker & Lehmann, 2011; Van Herpen et al., 2009). Other than quality perceptions, consumers may prefer popular products because they want to associate themselves with other buyers and conform to others (Gierl & Huettl, 2010). By consuming the same product as others, individuals will feel that they belong and ‘fit in’ to a social group (Berger & Heath, 2007; Escalas & Bettman, 2005).

Nevertheless, the opposite may occur in which individuals avoid demand-driven scarcity items as they want to create personal identity. Owning identical items to relevant others can challenge their personal identity so they may reject products that are too popular in the market (Brewer, 1991). This may be explained with the *theory of uniqueness* which was developed by Snyder and Fromkin (1977). The theory of uniqueness states that consumers have the desire to express themselves and to be perceived as being different (Snyder & Fromkin, 1977). One way to express uniqueness is through material possession as it is often seen as an extension of the self and allows the owner to form and maintain their self-concepts (Belk, 1988; Fromkin, 1972; Grubb & Grathwohl, 1967; Lynn, 1992a,1992b; Wu & Hsing, 2006). As such, consumers are more likely to purchase a particular product or brand that is perceived

to be exclusive and unique in order to enhance their self and social image and to satisfy their needs for uniqueness (Tian et al., 2001).

3.3.2.4 Social Cognitive Theory

Social Cognitive Theory posits that an individual actively learns during the social interaction between the person, environment and behaviour (Bandura, 1988, 1986, 1997; LaMorte, 2016). Human behaviour was originally explained in terms of one-sided determinism, in which there is a unidirectional causation between behaviour, environment and personal factors (Bandura, 1986). Personal and environment were considered as independent variables that correlate in unspecified ways to create behaviour.

However, social cognitive theory describes psychological functioning in terms of “triadic reciprocal causation”, where there is a functional dependence between events (Bandura, 1986). People have the ability to create environments, allowing them to gain more control and influence on their lives. At the same token, individuals learn new skills and knowledge through social modelling; individuals learn by watching others, and they can form more complex behaviours (Miller, 2016). Hence, social cognitive theory takes into account the roles of the environment and behaviour on the individuals’ learning of new skills and knowledge (Miller, 2016).

Individuals’ ability is a dynamic attribute and they are able to alter their behaviour depending on their personal sense of control and the contextual factors (Lent, Brown & Hackett, 1994). If they believe that they can take action to address a particular issue, they are more likely to be motivated to do so. As such, personal and environmental influence affect each other and do not act independently; there is multi-direction relationships between personal, environment, and behaviour (Bandura, 1986). It is noted that the three causal factors identified do not have equal contribution to behaviour, as it depends on the factor most dominant at the time (Clark & Zimmerman, 2014). Social cognitive theory has been applied in different field of studies, such as school achievement, career choice, mental and physical health, and socio-political change (Grusec, 1992; Schwarzer & Luszczynska, 2005).

3.3.2.5 Social Comparison Theory

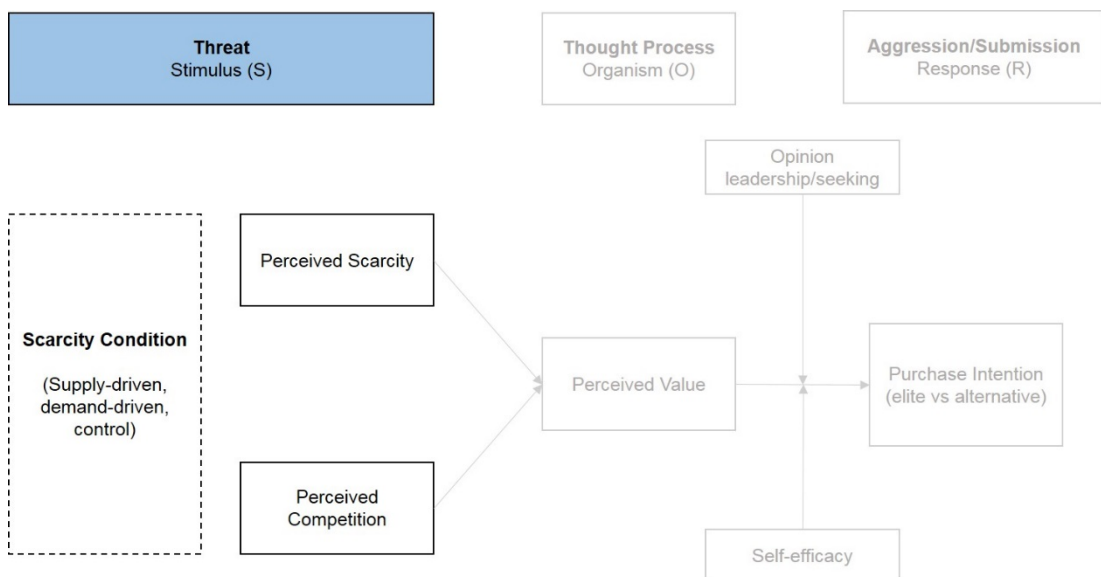
Social comparison theory provides the foundation which influences competitiveness in consumer behaviour. The theory states that individuals have the tendency to compare themselves, both upward (unfavourable) and downward (favourable) in order to learn their social standing and to obtain self-knowledge (Brewer & Weber, 1994; DiMaggio, 1977; Hyman, 1942; Kimmelmeier & Oyserman, 2001; Zander & Havelin, 1960). In some social situations, individuals make downward social comparisons with a lower social group which leads to aesthetic distancing and symbolic exclusion to the behaviour of the higher social group (Bourdieu, 1984; Bryson, 1996). In contrast, upward comparison is more likely to lead to envy and feelings of inferiority which motivate people in the lower class to elevate themselves socially through consuming the same product and experiences with the higher social group. Individuals are motivated to consume upward to enhance their ability and performance and, at the same time, minimise differences between themselves and the person that they are desired to be (Garcia et al., 2013).

3.4 HYPOTHESIS DEVELOPMENT

3.4.1 Stimulus

As identified, the ‘threat’ serves as a stimulus to the individual. Animals perform species-specific behaviours to show superiority to scare the opponents away. In a consumer behaviour context, the threat is not necessarily triggered by the presence of other consumers, it can also be created by marketers using heuristic scarcity cues (Cialdini, 2009; Gitlin, 2007). Products with heuristic scarcity cues, such as “limited edition” or “nearly sold out” cues, are more likely to be perceived as scarce and highly sought after by consumers (Kristofferson et al., 2016). Therefore, as seen in Figure 3.7, the stimulus is conceptualised as the perceived scarcity and perceived competition.

Figure 3.7: Theoretical Model (Hypothesis 1 and 2)



Note: H1 and H2 are not shown in the figure. The two hypotheses are testing the significant difference of the perceived scarcity and competition among the different scarcity conditions for all product categories.

3.4.1.1 Perceived Scarcity

Perceived scarcity refers to the perceived or experienced product shortage (Byun & Strenquist, 2012). Product availability can be intentionally limited by constraining the supply of a product to accelerate purchase (e.g. limited editions). Marketers may also point out the fact that certain products are selling fast by including demand-driven scarcity cue (e.g. products are nearly sold out). As both of these heuristic scarcity cues signify that the product availability is limited, they are likely to be perceived as scarce. As identified in the previous chapter, scarcity of resources is a major reason motivating

agonistic behaviour. Similarly, based on *the psychological reactance theory*, freedom is threatened when the resources are perceived to be scarce. The need to maintain freedom increases desire considerably (Brehm, 1966). Although psychological reactance theory mainly relates to resources that are necessary for survival, previous studies have found a similar behavioural pattern for non-survival resources in resource-rich consumer environments (Kristofferson et al., 2016; Lynn, 1992a, 1992b). For instance, Lessne (1988) found that “One Day Only” sales resulted in greater purchase intention in comparison to advertisements for “Three Day Only” or “Five Day” only sales. Verhallen (1982) also found that rare recipe books are perceived to be more attractive, expensive and valuable in comparison to readily available ones. These examples show that heuristic scarcity cues influence consumer perception of the product availability. Therefore, when consumers are presented with the elite luxury-branded products with heuristic scarcity cues, consumer perceptions of scarcity are expected to be higher as compared to elite luxury-branded product with no scarcity cues (Lynn, 1992a, 1992b; Verhallen, 1982). However, it can be expected that there are no significant differences between the perceived scarcity elicited by supply-driven and demand-driven scarcity cues. As such, both supply-driven scarcity (elicited by limited product supply either artificially or naturally) or demand-driven scarcity (product shortages due to market circumstances) cues are expected to evoke the same level of perceived scarcity for all product categories (publicly consumed luxury-branded products, privately consumed luxury branded products, and luxury fine-dining restaurants). As such, the following hypothesis is postulated:

H1. Perceived scarcity is not significantly different in both demand-driven and supply-driven scarcity conditions, but is significantly lower in the control condition.

3.4.1.2 Perceived Competition

According to evolutionary theory, human beings are hardwired to act competitively and impulsively in times of threat and uncertainty, including when resources for survival are scarce (Saad, 2017). For instance, when hurricanes warning sound, individuals often race to the store to buy and hoard commodities such as water and food before they run out (Nichols & Flint, 2013). Similarly, based on the theory of agonistic behaviour, animals have to fight others in order to obtain scarce resources that are needed to survive (Mursa, 2012). Although the theory of agonistic behaviour relates to scarce resources which are crucial for survival, aggressive and competitive

behaviour in consumers may also be observed for scarce non-survival resources, as evidenced through Black Friday sales (Lennon et al., 2011).

Perceived competition is defined as an individuals' interpretation of the intensity of competition and demand of a product in the marketplace (adapted from Byun & Mann 2011; Kemp & Hanemaaijer, 2004). Limited product availability restricts the number of individuals who can obtain the products. Hence, consumers tend to assume that they have to be fast in purchasing products before others (Byun & Mann, 2011), fostering competition between individuals. According to Cialdini (1993, 266), "...when we watch something we want become less available....a physical agitation sets in...the blood comes up, the focus narrows....the cognitive and rational side retreats....cognitive processes are suppressed....thoughtful analysis of the situation becomes less available....and brain clouding [occurs]."

As previously conceptualised, regardless of the competitors' visibility, the perception of competition among consumers can be created using heuristic scarcity cues (Aggarwal et al., 2011; Grossman & Medoza, 2003). Previous studies have also shown that heuristic scarcity cues increases uncertainty in obtaining the scarce goods due to the lack of control in achieving the goal (Aggarwal et al., 2011; Inman, Peter & Raghurir, 1997; Lynn, 1991; Meyer, 1980).

A study by Kristofferson et al. (2016) also found that heuristic scarcity cues influence consumers to perceive other buyers as competitive threats. Moreover, the study found that heuristic scarcity cues increase the testosterone in individuals, a hormone associate with aggression (Kristofferson et al., 2016). As such, they are more likely to prepare themselves to act aggressively to obtain the elite products/services. Consumers also tend to be more conscious of the behaviour of other shoppers while shopping and will feel rivalry against others (Byun & Sternquist, 2008; Nichols, 2010).

Therefore, the perception of competition is likely to be higher in products with a scarcity cue as compared to products without any scarcity cue. However, it is expected that there will be no significant difference between supply-driven scarcity cue and demand-driven scarcity cue as they both signify limited product availability, outside the control of consumers. The same argument applies for all product categories (publicly consumed luxury-branded products, privately consumed luxury-branded

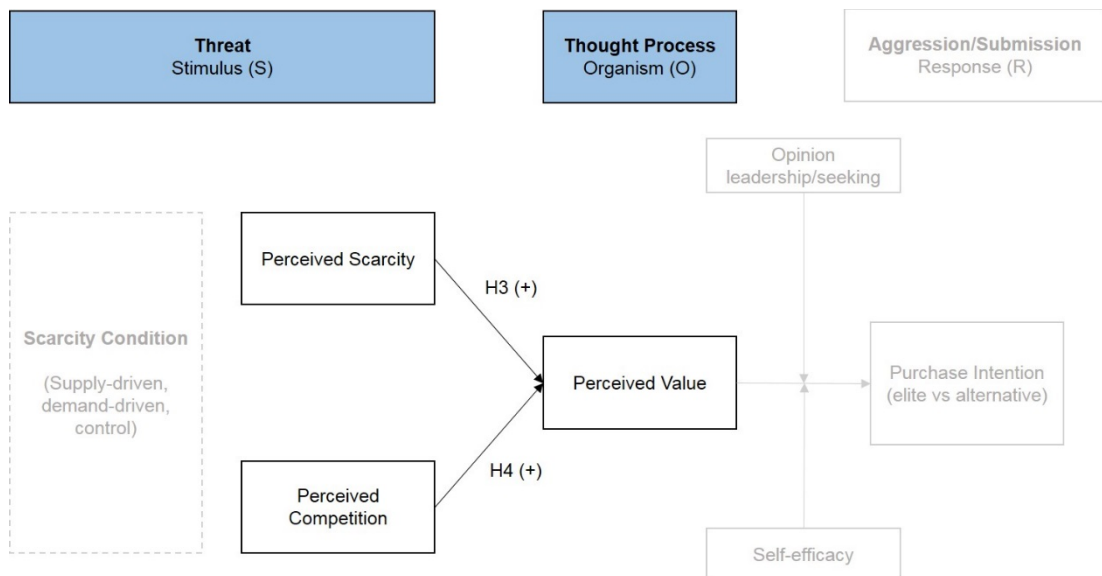
products, and luxury fine-dining restaurants). As such, the following hypothesis is postulated:

H2. Perceived competition is not significantly different in both demand-driven and supply-driven scarcity conditions, but is significantly lower in the control condition.

3.4.2 Stimulus-Organism

As previously discussed, the thought process in the theory of agonistic behaviour is conceptualised as the ‘organism’ in the S-O-R model. In essence, this is the stage in which organisms process their internal emotional and cognitive states after they are presented with external stimuli. Likewise, in a consumer context, when presented with a scarce product, consumers are more likely to assess the value of the products to identify the worthiness of the purchase. As seen in Figure 3.8, it is then hypothesised that when a product is seen to be scarce and highly sought after, consumers are more likely to perceive the product as more valuable (Verhallen & Robben, 1994).

Figure 3.8: Theoretical Model (Hypothesis 3 and 4)



3.4.2.1 Perceived Scarcity → Perceived Value

Luxury brands are well-known for their rarity and exclusivity (Burns & Brandy, 2001); this is a distinct characteristic of luxury brands which differentiates them from non-luxury brands. Luxury brands must maintain their relative rarity value by preventing over-diffusion in the market, which distinguishes luxury brands from non-luxury brands (Burns & Brandy, 2001; Dubois & Paternault, 1995). Scarcity perception has

been primarily associated with high quality (Chen & Sun, 2014; Wu & Hsing, 2006; Wu et al., 2012), exclusiveness (Amaldoss & Jain, 2005; Chen & Sun, 2014; Van Herpen et al., 2009; Park et al., 2008), and attractiveness (Fromkin, 1970; Szybillo, 1975). In line with *the commodity theory*, individuals are more likely to have a greater preference for products which are perceived as scarce in comparison to products which are readily available (Lynn, 1987; Verhallen, 1982). Previous studies have also supported the notion that products in short supply are more likely to be perceived as more valuable (e.g. Brock, 1968; Cialdini, 1987; Eisend, 2008; Lynn, 1991; Sharma & Alter, 2012; Verhallen & Robben, 1994). However, commodity theory does not specify why scarcity enhances product value. Thus, the bandwagon effect and the theory of uniqueness may be applied to explain why scarce products are more appealing than non-scarce products.

Purchasing luxury-branded products is often considered as a high-involvement and high-risk decisions due to the high financial cost (Lin, 2012), causing luxury consumers to spend a lot of time and effort to evaluate their decisions. In line with *the bandwagon effect*, individuals are more likely to choose products which are renowned and well-known in the market in order to reduce purchase risk associated (Leibenstein, 1950; Van Herpen et al., 2009). Other than to reducing purchasing risk, well-known products or brands are also preferred as they indicate social membership and belongingness to relevant social groups (Amaldoss & Jain, 2008; Leibenstein, 1950; Vigneron & Johnson, 1999). For example, Burberry created the Art of the Trench campaign in 2009 that allowed existing consumers to share photos on a website of themselves wearing their Burberry trench coats, giving them their '15 minutes of fame' (Tobias, 2013). This campaign resulted in the increased consumer engagement and e-commerce sales (Tobias, 2013). The success of this campaign showed that luxury value can be reinforced through the behaviour of other consumers and interaction between the various social groups, including brand communities and consumers (Tynan, McKechnie & Chhuon, 2010). Thus, luxury-branded products which are advertised as scarce due to high demand are more likely to be considered as reputable and high quality which, in turn, leads to high perceived value.

Consumer's preference towards scarce products can also be explained by *the theory of uniqueness*, a seemingly opposing theory in comparison to the bandwagon effect. As stated in the theory of uniqueness, individuals want to conform to others but not

appear to be identical to them (Brewer, 1991); they may avoid owning identical items as it challenges their personal identity. Individuals have a need to express themselves and to be perceived as being different through the consumption of material possessions and experiences (Snyder & Fromkin, 1977). Supporting this claim, previous studies have found that perceived scarcity is associated with perceived uniqueness (Bian & Forsythe, 2012; Chen & Sun, 2011; Park et al., 2008). The attempt in differentiating oneself from others is evident clearly in the luxury branding context (e.g. Park et al., 2008; Latter et al., 2010; Vigneron & Johnson, 2004). Previous studies have also found that consumers' need for uniqueness influences their intention to purchase luxury brands (e.g. Bian & Forsythe, 2012; Hung et al., 2011). For example, instead of producing more models of their cars, Rolls Royce focuses on offering customisation options to consumers which has been found to be a more profitable approach for the company (Kapferer, 2015). This business model allows Rolls Royce to create unique product offerings whilst fulfilling buyers need for uniqueness. Therefore, luxury-branded products which are advertised as scarce due to low supply are perceived to be exclusive, rare, and, in turn, lead to higher perceived value.

Overall, the bandwagon effect explains consumers' perception of high value towards scarcity due to high demand, whereas the theory of uniqueness explains consumers' perception of high value towards scarcity due to low supply. The effect of heuristic scarcity cues (supply-driven, demand-driven, and control) should not differ on the different product categories (public, private, and service). As such, the following hypothesis is postulated:

H3. Perceived scarcity has a positive influence on perceived value.

3.4.2.2 *Perceived Competition → Perceived Value*

Competitive behaviour is often motivated by the need to achieve and desire to win (Murray 1938). Competition among shoppers gives a thrill or arousal associated with the sense of achievement derived from the competition for scarce products (Bardhi, 2003; Eroglu et al., 2005; Nichols, 2010). Consumers are then likely to perceive the product as valuable as it creates an enjoyable feeling for the winning party and allows them to gain superiority over rivals (Hibbard, 2000; Nichols & Flint, 2013). This claim is also supported by *the commodity theory* which states that an item should have an

initial level of desirability, high level of brand awareness, and be sought after by other consumers to enhance product value (Eisend, 2008; Lynn, 1991).

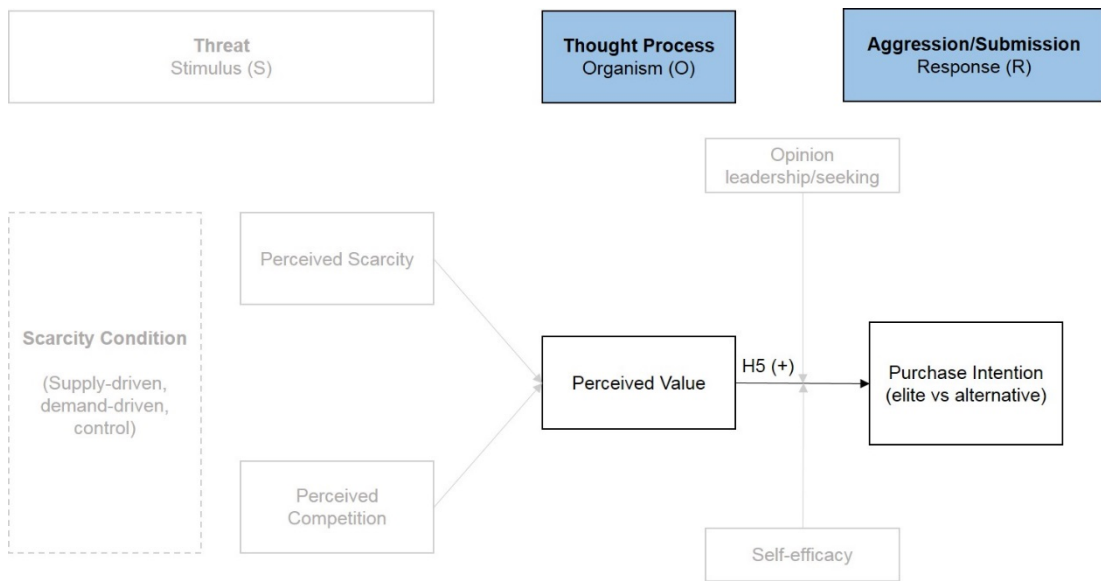
Competition is also an opportunity to improve some aspect of a consumer's self (Riskind & Wilson, 1982; Helmreich & Spence, 1978). In line with evolutionary psychology, this allows consumers to achieve a superior position or social dominance (Buss, 1995). In a consumption context, individuals can achieve social status by obtaining products which are desirable to other consumers (Veblen, 1899; Nelissen & Meijers, 2011; Nichols, 2010). For example, Saad and Vongas (2009) found that driving a luxury supercar increases testosterone, a hormone that is associated with male dominance displays across species (Dabbs & Dabbs, 2000; Mazur & Booth, 1998). Previous studies have also confirmed the role of luxury brands consumption in providing approval and favourable treatment in human social interaction (e.g. Hudders et al., 2014; Sundie et al., 2011; Nelissen & Meijers, 2011; Wang & Griskevicius, 2014). Consumers are more likely to perceive luxury-branded products as valuable if the products are perceived to be highly desirable and sought after by others, regardless of the heuristic scarcity cues presented. The same hypothesis applies for all product categories (publicly consumed luxury-branded products, privately consumed luxury-branded products, and luxury fine-dining restaurants). As such, the following hypothesis is postulated:

H4. Perceived competition has a positive influence on perceived value.

3.4.3 Organism – Response

According to the theory of agonistic behaviour, there are two possible responses, aggression or submission. As highlighted, aggressive behaviour occurs when animals fight in order to obtain scarce resources. Thus, in a consumer context, this can be measured by purchase intention for elite brands. On the other hand, submissive behaviour occurs when animals chooses to avoid the fight and seek alternative resources. Thus, in a consumer context, this can be measured by purchase intention for alternative brands. Therefore, as seen in Figure 3.9, the intention to purchase is a representation of aggressive and submissive behaviour. Buying an elite brand is considered as an act of aggression, while choosing neither handbag or buying the alternative brand is seen as an act the submission.

Figure 3.9: Theoretical Model (Hypothesis 5)



3.4.3.1 Perceived Value → Purchase Intention

Value is often defined as “what you get for what you pay” (Sirohi et al., 1998, p223) and is often related to the benefit received after deducting the amount of sacrifice needed to obtain the item. Perceived value represents the customer’s assessment of the utility of a product based on perceptions of what is received and what is given (Zeithaml, 1988). Product valuation can be accessed based on four different factors, such as quality, emotional benefit, price, and social benefit (Sweeney & Soutar, 2001). If the perceived benefits are more than what the individuals have to pay, then the value is relatively high. As such, individuals are more likely to purchase products that are seen as valuable. Numerous studies have found that high perceived value leads to higher purchase intention (Bakers et al., 2002; Chen & Chang, 2012; Chi, Yeh & Tsai, 2011; Chiang & Jang, 2007; Kalra & Goodstein, 1998; Tarn, 1999; Wells et al., 2011) and willingness to pay premium prices (Keller, 1993; Netemeyer et al., 2004; O’Cass & Choy, 2008).

Similarly, in the context of luxury brands, researchers support the view that the value of a product/brand influence both consumer preferences and their willingness to purchase the product/brand (Kalra & Goodstein, 1998; Netemeyer et al., 2004). Consumers have been found to be more willing to pay a premium price for brands that hold symbolic and emotional value, including luxury-branded products/services (Johar and Sirgy, 1991; Wu and Hsing, 2006). Further, Vigneron and Johnson (2004) have

also observed that consumers who place importance on hedonistic products are more willing to pay a higher price for luxury brands. These results demonstrated that consumers are more likely to purchase the luxury brand if they are perceived to be valuable (Bian & Forsythe, 2012; Hung et al., 2011; Li, Li, & Kambele, 2012; Shukla & Purani, 2012). The relationship between perceived value and purchase intention is expected to be consistent across different product categories (publicly consumed, privately consumed, or fine-dining restaurants). As such, the following hypothesis is postulated:

H5. Perceived value has a positive influence on purchase intention for the elite brand.

3.4.4 Moderation Effects

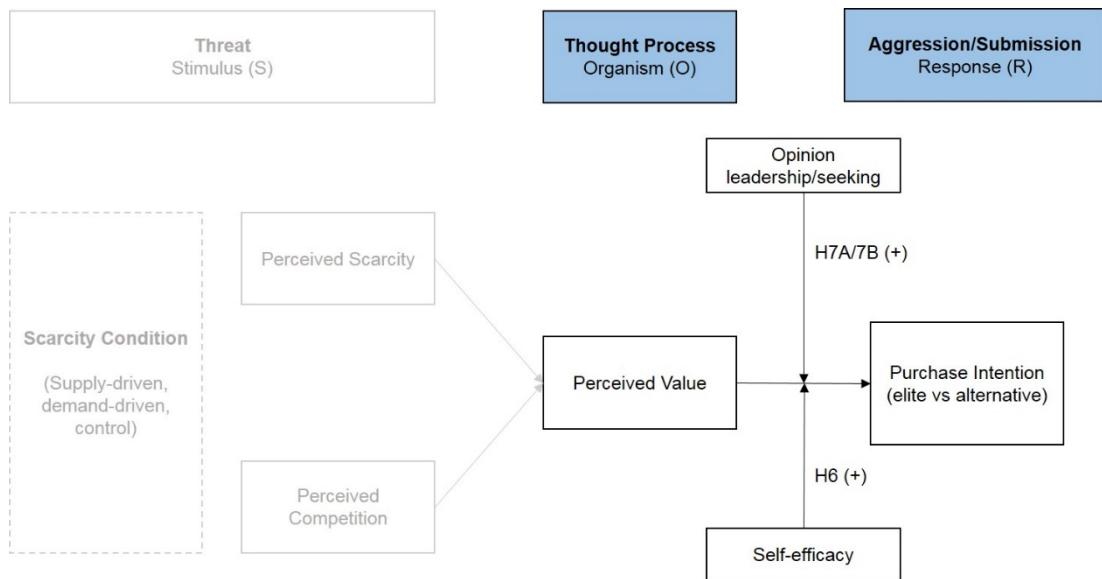
One of the major factors influencing the decision to be aggressive or submissive is body size and attributes. Animals with large body size and superior body attributes are more likely to be aggressive and win the fight (Schuett, 1997; Wise & Jaeger, 1998). They tend to be stronger and have greater competitive advantage over smaller ones. In a consumption setting characteristics which determine aggressive behaviour and winning results are likely to be the individuals' available resources such as financial, knowledge, and time resources. It is expected that consumers who are wealthier and have the skills and time available are more likely to acquire the elite brands. Self-efficacy is then conceptualised to represent body size and attributes in human behaviour. As seen in the Figure 3.5, the variable self-efficacy is hypothesised to be the moderating variable for the relationship between perceived value and purchase intention.

Besides self-efficacy, opinion leadership/opinion seeking are also expected to influence the relationship between perceived value and purchase intention. As identified, agonistic behaviour generally occurs to resolve conflict for territory, resources, status, mates, and protection of self or young (Sarkar, 2003). In turn, this determines the rank of animals within the ecosystem (Deag, 1977). Winners become dominant, while the losers are subordinate (Popp & De Vore, 1979). The dominant has priority access of resources, social status, freedom of movement, and reproductive success, while the subordinate is forced to drive away (King, 1973). In a consumer context, the dominant is conceptualised as opinion leaders while the subordinate is conceptualised as opinion seekers. As shown in Figure 3.10, the constructs of opinion

leadership/opinion seeking are hypothesised to be the moderating variable for the relationship between perceived value and purchase intention for the luxury fine-dining restaurants study.

To understand the moderations better, the constructs of self-efficacy and opinion leadership/opinion seeking are discussed below at length.

Figure 3.10: Theoretical Model (Hypothesis 6 and 7)



3.4.4.1 Self-Efficacy

Self-efficacy is a construct in the *social cognitive theory* (Bandura, 1982). Individuals have the tendency to make judgments regarding their capabilities and identify any possible outcomes prior to any decision-making process (Bandura, 1989). The belief in one's capabilities to organise and execute the courses of action required to manage prospective situations is referred to as self-efficacy (Bandura, 1986). From a social cognitive view, self-efficacy is not a static, passive trait, but it is more of a dynamic set of self-beliefs relating to a particular interest and interacts complexly with other people, behaviours, and contextual factors (Lent, Brown & Hackett, 1994; Klassen & Chiu, 2010). There are two components of perceived self-efficacy: efficacy expectations and outcome expectancy (Gavora, 2010). Efficacy expectations are beliefs that a person has the ability to perform the tasks to achieve desired outcomes, while outcome expectancy are beliefs that an expected outcome can be achieved through certain actions (Tshannen-Moran & Hoy, 2001).

The greater perceived self-efficacy, the more likely consumers are to set higher goals, be more persistent in their efforts, and be more committed to achieving them (Bandura, 1988; Locke et al., 1984; Schwarzer & Luszczynska, 2005). On the other hand, when individuals doubt their capabilities, they are more likely to be less persistent and willing to settle for less desirable solutions. Research has demonstrated that perceived self-efficacy is a positive predictor of purchase intention in the context of online media (e.g. Luarn & Lin, 2005; Wang, Lin & Luarn, 2006), health communication (Burgoon et al., 2002), corporate social responsibility (e.g. Ali, Rehman & Yilmaz, 2010; Bray et al., 2011; Öberseder et al., 2011), and fashion (e.g. Jin & Kang, 2011; Phau & Teah, 2009; Workman & Johnson, 1993).

Moreover, as previously mentioned, when freedom is restrained and the individuals perceived themselves as capable in re-establishing their freedom, they are more likely to work towards restoring their threatened freedom (Brockner & Elkind, 1985; Wicklund & Brehm, 1968). In this case, since the elite luxury-branded products/services are scarce (and thus restricted), individuals who have the ability to purchase the scarce products/services are expected to be more motivated to purchase them instead of alternatives. Hence, self-efficacy is proposed to enhance the relationship between perceived value and purchase intention. This hypothesis is expected to be consistent across all scarcity conditions (supply-driven, demand-driven, and control) and product categories (public, private, and services). As such, the following hypothesis is postulated:

H6. Self-efficacy strengthens the relationship between perceived value and purchase intention for the elite brand.

3.4.4.2 Opinion Leadership/ Opinion Seeking

Consumers influence other consumers in different ways (Flynn et al., 1996). Opinion leaders have greater influence over other individuals, while opinion seekers seek for information from the opinion leaders. Opinion leaders are defined as “individuals who exert an unequal amount of influence on the decisions of others” (Rogers & Cartano, 1962, p435). They are generally passionate and knowledgeable about a certain product category, which, in turn, influences the purchasing decisions of others (Flynn et al. 1996; Phau & Lo, 2004). Opinion leaders assert dominance in order to obtain high influence within a social setting (Berger et al., 1980).

Previous studies have also found that opinion leaders score higher on public individuation, suggesting that leaders have the tendency to stand out within the social group (Chan & Misra, 1990). Accordingly, opinion leaders prefer fashion brands perceived as unique (Dawson & Riggway, 1987). By sharing information about products and brands, Simonson and Nowlis (2000) believe that unconventional choices help in facilitating communication, drawing more attention from others and establishing superiority of the original individuals. Moreover, status consumption is positively related to fashion opinion leadership (Goldsmith & Clark, 2007). In other words, leaders are likely to consume luxury products in order to convey status and dominance. Therefore, luxury restaurants with supply-driven scarcity cues are more attractive to the opinion leaders in comparison to those with demand-driven scarcity cues (Balachander & Stock, 2009; Wu & Lee, 2016). It is thus expected that opinion leaders who have high self-efficacy and perceived luxury restaurant which is scarce due to limited supply as valuable, will have higher intention to dine at the restaurant. As such, the following hypothesis is postulated:

H7a. Only in supply-driven scarcity condition, a three-way interaction will be observed for the relationship between perceived value, self-efficacy and opinion leadership on purchase intention. Specifically, the level of opinion leadership enhances the moderation of self-efficacy on the relationship between perceived value and purchase intention.

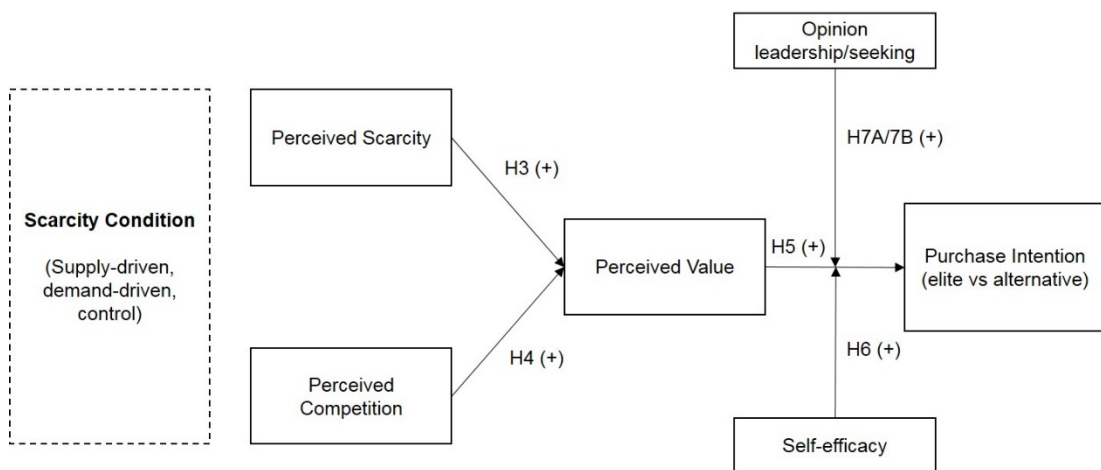
Opinion seekers, on the other hand, are those who actively seek advice from opinion leaders (Engel et al., 1990). Seekers do not have the same interest in and knowledge of the product category as opinion leaders do (Flynn et al., 1996). They are generally less knowledgeable, more attentive to social comparison information, and have lower self-esteem (Pornpitakpan, 2010). Thus, they seek information from others to reduce purchase risk and to make the best purchase decision (Punj & Staelin, 1983). Furthermore, opinion seekers have the desire to be a member of a certain group. In a luxury branding context, seekers are motivated to improve their standing in a social group and to conform to high social status individuals, and their satisfaction increases when they consume the same luxury products as luxury consumers (Becker, 1991; Jones, 1984).

As described by *social comparison theory*, individuals often perform an upward comparison which motivates them to improve themselves so that they can fit in to a higher social class. As a result, contrary to opinion leaders, luxury restaurants with demand-driven scarcity cues will be perceived to be more attractive than supply-driven scarcity cues for opinion seekers as it allows them to fit into a desired social group. It is expected that opinion seekers who have high self-efficacy and perceive luxury restaurants which are scarce due to high demand as valuable will have higher intention to dine at the restaurant. As such, the following hypotheses is postulated:

H7b. Only in demand-driven scarcity condition, a three-way interaction will be observed for the relationship between perceived value, self-efficacy and opinion seeker on purchase intention. Specifically, the level of opinion seeking enhances the moderation of self-efficacy on the relationship between perceived value and purchase intention.

The hypotheses drawn previously lead to the portrayal of the proposed research framework for this research (Figure 3.11).

Figure 3.11: The Proposed Theoretical Framework



3.5 CONCLUDING COMMENTS

The present chapter introduced the proposed theoretical model and the hypotheses, underpinned by the theory of agonistic behaviour and derived from the literature presented in Chapter Two. Table 3.2 provides a summary of the hypotheses in the theoretical model. The following chapter will identify the methods of data collection and the analysis used to identify the relationship indicated in the hypotheses.

Table 3.2: The Hypotheses Examined in this Research

ALL STUDIES	
H1	Perceived scarcity is not significantly different in both demand-driven and supply-driven scarcity conditions, but is significantly lower in the control condition.
H2	Perceived competition is not significantly different in both demand-driven and supply-driven scarcity conditions, but is significantly lower in the control condition.
H3	Perceived scarcity has a positive influence on perceived value.
H4	Perceived competition has a positive influence on perceived value.
H5	Perceived value has a positive influence on purchase intention for the elite brand.
H6	Self-efficacy strengthens the relationship between perceived value and purchase intention for the elite brand.
STUDY THREE	
H7A	Only in supply-driven scarcity condition, a three-way interaction will be observed for the relationship between perceived value, self-efficacy and opinion leadership on purchase intention. Specifically, the level of opinion leadership enhances the moderation of self-efficacy on the relationship between perceived value and purchase intention.
H7B	Only in demand-driven scarcity condition, a three-way interaction will be observed for the relationship between perceived value, self-efficacy and opinion seeker on purchase intention. Specifically, the level of opinion seeking enhances the moderation of self-efficacy on the relationship between perceived value and purchase intention.

CHAPTER FOUR

RESEARCH METHODOLOGY

4.1 INTRODUCTION

Chapter Two discussed the underpinning theoretical basis of the current study as well as the key constructs that will be examined in the research model. Chapter Three applied the underpinning and supporting theories in a consumer behaviour context to develop the research model and hypotheses for the current study. The current chapter discusses the research methodology employed to test the developed framework and its associated relationships. This chapter comprises three sections, namely:

- (1) the sampling method including the profile of the respondents and how the data was collected;
- (2) the research design including the survey instrument development and stimulus creation; and
- (3) the statistical analyses used to investigate the relationships between key variables in the developed theoretical framework.

4.2 RESEARCH CONTEXT

The current research investigates the influence of heuristic scarcity cues on consumers' perception and competitive behaviour in a luxury branding context. This research focuses on quantity-restricted scarcity cues, namely, supply-driven and demand-driven scarcity cues, which represent the most common scarcity cues used in luxury branding. This research emphasises on different product categories as the boundary conditions to contextualise the study experimental design. Since this research aims to validate and generalise the developed theoretical framework under different product contexts, Study One focuses on publicly-consumed luxury-branded products and aims to develop the initial theoretical framework. Study Two and Three focus on privately-consumed and luxury experiential service to validate and generalise the framework. Both privately consumed luxury-branded products and luxury experiential services were chosen as these categories are underexplored and often assumed to be the same as publicly consumed luxury-branded products (e.g. Mason, 1981; Sundie et al., 2011; Yang & Matilla, 2016).

4.2.1 Quantitative Approach

A positivist research philosophy is adopted as this research entailed developing and generalising a theoretical framework, as underpinned by the theory of agonistic behaviour and supported by the S-O-R model (Saunders, Lewis, & Thornhill, 2016). The framework was established to understand how the different scarcity conditions influence consumers' perception of luxury-branded products/services. Since this research adopted a positivist research approach, a quantitative method was deemed to be the best approach to ensure measurable and quantifiable data, which was analysed using a range of statistical techniques to address the research hypotheses and objectives (Gill & Johnson, 2010).

Data was collected via a self-administered online questionnaire which was chosen due to a number of reasons. First, a large amount of data can be gathered efficiently in a financially effective and timely manner (Heslop, Cray, & Armenakyan, 2010; Keisler & Sproull, 1986; Mitchell & Jolley, 2012). Second, respondents' identity can be made anonymous, decreasing the effects of social desirability bias (Lin, 2004). Last, self-administered questionnaire reduces response bias due to the limited involvement with researchers during the data collection process (Nosek, Banaji & Greenwald, 2002).

However, the self-administered online questionnaire has a number of disadvantages. First, respondents may be easily distracted while completing the survey so they do not pay attention to the questions (Mitchell & Jolley, 2012). Second, the lengthy surveys may deter respondents in completing it (Sekaran & Bougie 2016). Last, any issues with the survey questions cannot be clarified as the researchers do not interact with the respondents during data collection (Mitchell & Jolly, 2012). However, the advantages of cost-savings, time efficiency, anonymity and neutrality of the self-administered questionnaire outweighed the disadvantages. As such, the online self-administered questionnaire was suitable for the research.

4.2.2 Research Design

As the aim of this research was to examine the influence of different scarcity cues on consumers' perception, an experimental approach was adopted to investigate causal relationships between the independent and dependent variables (Hedayat, 1970). Respondents were randomly allocated to different conditions in a 3 (scarcity conditions) x 3 (product types) between-subjects factorial design. The scarcity conditions included demand-driven scarcity, supply-driven scarcity and control conditions. The product types included publicly-consumed luxury-branded products, privately-consumed luxury-branded products, and luxury experiential service products.

An experimental approach was deemed preferable as it allows the researcher to accurately test for specific causal relationships and control for various variables (Hedayat, 1970; Reiss, 2011). The experimental approach has been widely used in different fields of study including biological sciences (e.g. Caldwell & Dingle, 1979; Mackintosh & Grant, 1966; Southwick, 1967), psychology (e.g. Kent & Allen, 1993), and marketing (e.g. Baker, Levy & Grewal, 1992; Liechty & Ramaswamy, 2001; Michaud & Llerena, 2011). However, it is crucial to control and carefully design an experiment in order to ensure there is little to no influence from other unaccounted factors (Saunders et al. 2016; Simonson, Carmon, & O'Curry, 1994). As such, for the purpose of the study, while non-fictitious brands were used to ensure ecological validity, unfamiliar brands were chosen to reduce confounding brand effects (Gierl & Huettl, 2010).

In accordance with the experimental design, three studies were conducted which are reflected in three different chapters. Study One (Chapter Five) examined publicly-consumed luxury-branded products, Study Two (Chapter Six) investigated privately-consumed luxury-branded products, while Study Three (Chapter Seven) examined luxury experiential service products. Each study included all three different heuristic scarcity cues. An additional moderator, opinion leaders/opinion seeking, was also incorporated in the last study. The outline of the research design for the current research is presented in Table 4.1.

Table 4.1: Stimulus for Research Design

Scarcity Conditions	Product Categories		
	Public Product (Chapter Five)	Private Product (Chapter Six)	Experiential Service Product (Chapter Seven)
Demand-driven scarcity	Nearly Sold Out Designer Bag	Nearly Sold Out Underwear	Highly in Demand Restaurant
Supply-driven scarcity	Limited Edition Designer Bag	Limited Edition Underwear	Limited Seats available Restaurant
Control	New Arrival Designer Bag	New Arrival Underwear	New Restaurant

4.3 SAMPLE SIZE, SAMPLING FRAME, AND DATA COLLECTION

4.3.1 Sample Size and Sampling Frame

The current study will utilise Structural Equation Modelling (SEM) to test the relationships in the research model. There have been numerous debates in determining the optimal sample size for SEM. The rule-of-thumb in determining a suitable sample size for correlations and regression analysis is more than 50 respondents, with the number of required respondents increasing as the number of independent variables increase. Sample sizes less than 100 are considered small; between 100 and 200 is considered moderate; and over 200 is considered large (Kline, 2011). Based on the guidelines suggested by Churchill (1991), the sample size required for studies is approximately 200-500 respondents. Similarly, Hair, Black and Babin (2010) suggested that a sample size ranging between 100 and 400 is suitable for SEM. The current study aims for at least 150 cases in each condition. This sample size would allow for an anticipated effect size of .30 (Kline, 2011), desired power of .80, and alpha levels of .05 (Kline, 2011) for the five latent variables as identified in Chapter Three.

This study was conducted on the Australian population, specifically individuals who had purchased luxury-branded products/services. Aided by Australia's economic growth, luxury retailing in Australia experienced strong growth over the review period (Abaño, 2018). The luxury retailing industry grew over the past five years with revenue increasing by 10.2 percent annually, reaching AUD 2.1 billion in 2017-18 (Bain & Company, 2018). Furthermore, limited studies have investigated consumer behaviour in luxury branding context for Australian consumers (e.g. Donvito et al., 2016; Ko et al., 2016), making it an ideal location to conduct the current research.

A convenience sampling method was employed for all studies, but a few screening questions were put in place to ensure that all respondents are luxury brands consumers. Since this research focuses on luxury-branded products which requires the opinions of actual luxury consumers, a student sample was not deemed appropriate as the average students would not be able to afford luxury branded products. In addition, students are less likely to have a well-formulated sense of self and attitudes which may produce systematic biases in the results (Sears, 1986; Carlson, 1971). As such, a consumer panel was ultimately preferred (Kapferer & Laurent, 2016).

4.3.2 Data Collection

Data was acquired via Qualtrics, an online survey software with consumer panel facilities. Online survey software is cost and time effective for the collection of data; it allows researchers to filter respondents to obtain the most accurate respondent profiles; in the case of this study, luxury consumers (Pollard, 2002).

Data collection for all studies was conducted from August 2016 to August 2017. Participants were provided an incentive of AUD 4.00 for their completion of the survey. Study One was conducted in August 2016 with a total of 850 questionnaires collected. Out of the 850 responses, 205 responses were discarded as respondents provided straight-line responses or failed the attention checks (Refer to section 4.7.2 – Questionnaire design for the detail). Of the remaining 627 responses, 221 responses were collected for the supply-driven scarcity condition, 166 responses for the demand-driven scarcity condition, and 211 respondents for the control condition were collected. Study Two was conducted in March 2017 with a total of 850 data collected. Out of the 850 responses, 278 data were discarded. Of the remaining 572 responses, 196 respondents were collected for supply-driven scarcity condition, 175 respondents for control condition, and 201 respondents for demand-driven scarcity condition. Study Three was conducted in August 2017 with a total of 850 data collected. Out of the 850 responses, 263 questionnaires were discarded. Of the remaining 587, 173 respondents were collected for supply-driven scarcity condition, 201 respondents for control condition, and 213 respondents for demand-driven scarcity condition. Table 4.2 summarises the collected data and responses for all three studies conducted for this research.

Table 4.2: Responses Breakdown for Study One, Two and Three

Data Collection	Study One	Study Two	Study Three
Total Number of Responses	850	850	850
Total Number of Usable Responses	627	572	587
Percentage of Usable Responses	73.8%	67.3%	69.0%

4.4 PRODUCT CATEGORY AND BRAND SELECTION

The current study tests the research model under three different product categories, namely publicly consumed, privately consumed, and experiential service products. Two preliminary tests were conducted in order to choose: (1) the most suitable product categories and (2) suitable brands (elite and alternative brands) for each product category. The detail regarding the preliminary tests are outlined in Table 4.3.

Table 4.3: Preliminary Tests in Selecting Product Categories and Brands

	Sample	Objectives
Preliminary Test One	Luxury consumers N = 30	Product category selection (for each study)
Preliminary Test Two	Luxury consumers N = 20	Brand selection (for each product category)

For both publicly consumed and privately consumed products, since product visibility is often situational dependent (Heine, 2012), a preliminary test was deemed necessary to minimise bias towards the product categories selected. To identify the ideal product category for public and private products, thirty luxury consumers, 15 females and 15 males, were given a list consisting of 15 fashion product categories (e.g. shoes, watches, perfume, underwear, wallets, etc.) and were asked to assess which categories were consumed publicly and privately (Bearden & Etzel, 1982). To measure the type of the product categories, the respondents had to indicate their agreement with the question, “This is a visible product”, on a seven-point scale ranging from 1 = “totally disagree” to 7= “totally agree” (Gierl & Huettl, 2010). Participants were also asked to rank those product categories to identify which category they purchased most, in which 1 indicated the most frequently and 15 indicated least the frequently purchased product categories. The results of this testing are highlighted in the following sections.

For experiential service products category, luxury fine-dining restaurant was chosen as the most suitable category for this research. As identified in Chapter Two, luxury fine-dining restaurants has experienced rapid growth that warrant the need to be explored (Yang & Mattila, 2016).

Further, the current study utilised non-fictitious luxury brands (both elite and alternative brands) for ecological validity (Simonson et al., 1994). As previously

defined in Chapter Two, an elite brand is the top of the top luxury brand that serve as a benchmark of highest exclusivity and best quality (Rambourg, 2014). On the other hand, an alternative brand is a brand that serves as a close substitute of the elite brand; this research focused on mimic brands as the alternative (adapted from; Ang et al. 2001; Teah 2010). To avoid any biases due to different brand effects or levels of brand knowledge, an existing but unfamiliar brand from each category was selected (Gierl & Huettl, 2010). To establish the perceptions of luxury and prestige of the chosen elite brands, an introduction video of the brand was introduced at the beginning of the survey.

To identify the most suitable brands (both elite and alternative brands) for the study, a second preliminary test was conducted. The pre-test asked respondents to state their familiarity with a list of brands (both elite and alternative brands) for each product category (publicly consumed, privately consumed, and experiential service products); brands with the lowest familiarity ratings were selected. To further ensure low familiarity, it was ensured that brands presented to the respondents during the pre-test did not have flagship stores in Australia.

The process of selecting the product categories and brands chosen for each of the three studies is explained in the sections below.

4.4.1 Study One – Publicly Consumed Luxury-branded Products

The results showed that bags and shoes were the two product categories that were rated as most publicly consumed and commonly purchased. Since shoes were heavily rated as commonly purchased by the male respondents during the pre-test but not by the female respondents, designer bags were chosen as the public product category (Study One). Designer bag was commonly purchased relatively equal for both male and female respondents. Supporting this, bags are also a gender neutral item and serves as an important tool in creating their individual identity (Grotts & Johnson, 2013). It is one of the most basic accessories for fashion luxury brands; it is also among the recognisable products of luxury brands given that they contribute significantly to a luxury brand's image (Mellery-Pratt, 2015).

For the brand selection, the second pre-test showed that Bottega Veneta was voted by the respondents as the brand with the lowest familiarity level. Bottega Veneta is an

established elite luxury brand and has flagship stores in different countries, encompassing Europe, Asia and America, but not Australia (“Bottega Veneta”, 2016). Thus, the brand was chosen as the elite brand for the publicly consumed luxury branded products. For the alternative brand, Deux Lux, was voted as the brand with the lowest familiarity. Deux Lux offers bags with similar designs to Bottega Veneta, but at a lower price point. As such, Deux Lux was deemed suitable option for the alternative brand.

4.4.2 Study Two – Privately Consumed Luxury-Branded Product

The undergarment product category was rated highest as privately consumed products which was commonly purchased for both male and female respondents. Supporting this, the undergarment and lingerie sector is also currently booming and estimated to reach €24.18 billion by 2017 and expected to grow in the future (Undressing, 2018). As such, the undergarment is a suitable product category for this research.

During the second pre-test, Icebreaker was voted by the respondents as the brand with the lowest familiarity level. Thus, the brand was chosen as the elite brand for the privately consumed luxury branded product. Icebreaker is a premium undergarment brand originating from New Zealand and does not have any flagship stores in Australia ((Icebreaker, 2016). For the alternative brand, Bamboo was the brand with the least familiarity as compared to the other alternative brands presented. Bamboo is an affordable undergarment brand that offers product items similar to Icebreaker, in terms of design and philosophy. As such, Bamboo was deemed suitable option for the alternative brand.

4.4.3 Study Three – Luxury Experiential Services







As consumer trends have shifted to spending more on experiences rather than objects, has become essential to investigate consumer purchase behaviour in a service context. Furthermore, luxury hospitality industry has experienced rapid growth in the past decade (Yang & Mattila, 2015). Therefore, study three focused on luxury experiential service products, specifically on luxury fine-dining restaurants.

Based on the pre- test, Alain Ducasse au Plaza Athénée was voted by the respondents as the least recognised luxury fine-dining restaurant. Alain Ducasse is a Michelin star luxury fine dining French restaurant which offers naturality cuisine inspired by the

fish-vegetable-cereal trilogy (Alain Ducasse, 2017). The interior takes in features such as cultured stainless steel ‘shells’ and a chandelier detailed with Swarovski crystal (Alain Ducasse, 2017). Therefore, Alain Ducasse au Plaza Athénée was chosen as the elite luxury brand restaurant for Study Three. For the alternative brand, an affordable French restaurant La Brasserie was chosen because the brand was voted as the least familiar as compared to the other alternative brands presented. Since La Brasserie is a reasonably priced fine-dining restaurant that offers similar cuisine and atmosphere to Alain Ducasse, La Brasserie was deemed a suitable alternative.

The summary of the brand selection for both elite and alternative brands are outlined in Table 4.4.

Table 4.4: Summary of Brand Selection for all Product Categories

Brand	Product Categories		
	Designer Bag (Chapter Five)	Underwear (Chapter Six)	Fine-dining Restaurant (Chapter Seven)
Elite Brand	Bottega Venetta 	Icebreaker 	Alain Ducasse au Plaza Athénée 
Alternative Brand	Deux Lux 	Bamboo 	La Brasserie 

4.5 STIMULUS DESIGN AND PREPARATION

The stimulus design was developed by adapting the process employed by Phau and Cheong (2009); through a series of focus groups with young adults. The information and product images for all stimuli were taken from the official company websites of the relevant brands. The stimuli were carefully designed to create a sense of professionalism and to emulate a real advertisement pamphlet while ensuring that the key content was sufficiently prominent for respondents to fully comprehend the message. As seen in Table 4.5, the stimuli were pre-tested twice with a group of 10 different luxury consumers for each pre-test; respondents were asked regarding their familiarity with the chosen brands and were encouraged to provide feedback to improve on the clarity of the stimulus. Questions regarding the realism of the stimuli were also posed to confirm that the stimuli appeared authentic visually.

Table 4.5: Preliminary Test to Ensure the Clarity, Authenticity and Brand Familiarity for the Stimuli

	Sample	Objectives
Preliminary Test Three	Luxury consumers N = 10	Stimuli development (Brand familiarity, message clarity, and stimulus authenticity)
Preliminary Test Four	Luxury consumers N = 10	Stimuli development (Brand familiarity, message clarity, and stimulus authenticity)




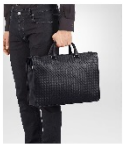
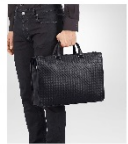
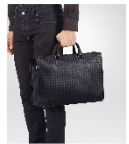
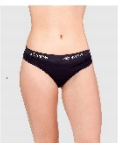
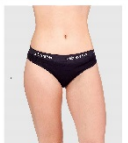
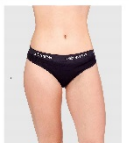
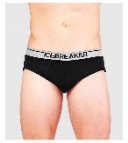
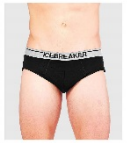







For first pre-test, most respondents did not recognise the chosen brands. Although most respondents were able to comprehend the message in the stimuli (specifically the information regarding the scarcity condition), some were not convinced that the stimuli were authentic. After gathering feedback on improving the realism of the stimuli, the stimuli were altered to exhibit real luxury brand company pamphlets. After alteration, a second pre-test was conducted to ensure the suitability of the stimulus. The test showed that all respondents did not recognise the chosen brands. They were also able to comprehend the message in the stimuli clearly and were convinced that the stimuli were authentic.

4.5.1 Study One and Two – Publicly and Privately Consumed Luxury-branded Product

For each study, a total of eight versions of a retail pamphlet were created (3 scarcity conditions for the desired brand + 1 alternative brand x 2 genders). Although all respondents were presented with the same product categories, the product shown was gender-specific to acknowledge variations in choices and preferences across genders (Caterall & Maclaran, 2001; Moss, 1995; Moss & Colman, 2001; Simon & Peppas, 2005; Stokburger-Sauer & Teichmann, 2013). Prior analysis, the results between the two genders were measured to ensure the results were not significant difference. The stimuli were created as identical as possible across different versions to avoid aesthetic biases. For the supply-driven scarcity cue condition, the phrase “Limited Edition” was used as it is the most common marketing strategy in communicating scarcity due to low supply (Gierl et al., 2008). For the demand-driven scarcity cue condition, the phrase “Bestseller” was used as it is the most common phrase used in communicating highly sought out products (Wu & Lee, 2016). For the control condition, the phrase “New Arrival” was used to eliminate the perception of scarcity. To further emphasise the scarcity perception to the respondents, additional words and phrases were also added, namely – “highly in demand, almost sold out” and “popular” (demand-driven scarcity) and “supplies are limited” and “unique” (supply-driven scarcity) (Gierl & Huettl, 2010). Product descriptions were also provided and kept consistent across all conditions. The elite brand stimuli for both Study One and Two can be seen in Table 4.6 (A clearer version of the stimuli are available in Appendix A and B).

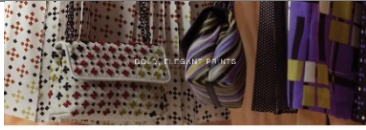








Table 4.6: The Stimuli for Elite Brands for Study One and Two

	Supply-driven Scarcity Condition	Demand-driven Scarcity Condition	Control Condition
Study One (Female)			

Study One (Male)			
	<p>BOTTEGA VENETA LIMITED EDITION HANDBAG</p> <p>BOTTEGA VENETA BRIEFCASE IN INTRECCIATO CALF</p>  <p>The classic and iconic features of this elegant Bottega Veneta briefcase are elegantly highlighted and accentuated through the Intrecciato Calf texture. The briefcase is made of high-quality leather and is available in various colors and finishes. The Intrecciato Calf texture is a signature Bottega Veneta design, featuring a complex, woven pattern that creates a rich, textured surface. The briefcase is designed to be both functional and stylish, with a sturdy construction and a secure closure. It is perfect for professional settings or as a sophisticated accessory for everyday use.</p>	<p>BOTTEGA VENETA BESTSELLER HANDBAG</p> <p>BOTTEGA VENETA BRIEFCASE IN INTRECCIATO CALF</p>  <p>The classic and iconic features of this elegant Bottega Veneta briefcase are elegantly highlighted and accentuated through the Intrecciato Calf texture. The briefcase is made of high-quality leather and is available in various colors and finishes. The Intrecciato Calf texture is a signature Bottega Veneta design, featuring a complex, woven pattern that creates a rich, textured surface. The briefcase is designed to be both functional and stylish, with a sturdy construction and a secure closure. It is perfect for professional settings or as a sophisticated accessory for everyday use.</p>	<p>BOTTEGA VENETA NEW ARRIVAL HANDBAG</p> <p>BOTTEGA VENETA BRIEFCASE IN INTRECCIATO CALF</p>  <p>The classic and iconic features of this elegant Bottega Veneta briefcase are elegantly highlighted and accentuated through the Intrecciato Calf texture. The briefcase is made of high-quality leather and is available in various colors and finishes. The Intrecciato Calf texture is a signature Bottega Veneta design, featuring a complex, woven pattern that creates a rich, textured surface. The briefcase is designed to be both functional and stylish, with a sturdy construction and a secure closure. It is perfect for professional settings or as a sophisticated accessory for everyday use.</p>
	<p>ICEBREAKER LIMITED EDITION UNDERWEAR</p> <p>SEAMLESS LOGO BIKINI</p>  <p>Icebreaker's seamless logo bikini is made of high-quality, breathable fabric. It features a subtle, woven logo that is both stylish and functional. The bikini is designed to provide maximum comfort and support, with a soft, stretchy material that conforms to the body. It is perfect for active lifestyles or as a sophisticated piece of underwear. The seamless construction ensures a smooth, irritation-free fit, making it ideal for long-term wear. The bikini is available in various colors and finishes, allowing you to choose the perfect look for your style.</p>	<p>ICEBREAKER BESTSELLER UNDERWEAR</p> <p>SEAMLESS LOGO BIKINI</p>  <p>Icebreaker's seamless logo bikini is made of high-quality, breathable fabric. It features a subtle, woven logo that is both stylish and functional. The bikini is designed to provide maximum comfort and support, with a soft, stretchy material that conforms to the body. It is perfect for active lifestyles or as a sophisticated piece of underwear. The seamless construction ensures a smooth, irritation-free fit, making it ideal for long-term wear. The bikini is available in various colors and finishes, allowing you to choose the perfect look for your style.</p>	<p>ICEBREAKER NEW ARRIVAL UNDERWEAR</p> <p>SEAMLESS LOGO BIKINI</p>  <p>Icebreaker's seamless logo bikini is made of high-quality, breathable fabric. It features a subtle, woven logo that is both stylish and functional. The bikini is designed to provide maximum comfort and support, with a soft, stretchy material that conforms to the body. It is perfect for active lifestyles or as a sophisticated piece of underwear. The seamless construction ensures a smooth, irritation-free fit, making it ideal for long-term wear. The bikini is available in various colors and finishes, allowing you to choose the perfect look for your style.</p>
<p>ICEBREAKER LIMITED EDITION UNDERWEAR</p> <p>COTTON STRETCH HIP BRIEF</p>  <p>Icebreaker's cotton stretch hip brief is made of high-quality, breathable fabric. It features a subtle, woven logo that is both stylish and functional. The hip brief is designed to provide maximum comfort and support, with a soft, stretchy material that conforms to the body. It is perfect for active lifestyles or as a sophisticated piece of underwear. The cotton stretch construction ensures a smooth, irritation-free fit, making it ideal for long-term wear. The hip brief is available in various colors and finishes, allowing you to choose the perfect look for your style.</p>	<p>ICEBREAKER BESTSELLER UNDERWEAR</p> <p>COTTON STRETCH HIP BRIEF</p>  <p>Icebreaker's cotton stretch hip brief is made of high-quality, breathable fabric. It features a subtle, woven logo that is both stylish and functional. The hip brief is designed to provide maximum comfort and support, with a soft, stretchy material that conforms to the body. It is perfect for active lifestyles or as a sophisticated piece of underwear. The cotton stretch construction ensures a smooth, irritation-free fit, making it ideal for long-term wear. The hip brief is available in various colors and finishes, allowing you to choose the perfect look for your style.</p>	<p>ICEBREAKER NEW ARRIVAL UNDERWEAR</p> <p>COTTON STRETCH HIP BRIEF</p>  <p>Icebreaker's cotton stretch hip brief is made of high-quality, breathable fabric. It features a subtle, woven logo that is both stylish and functional. The hip brief is designed to provide maximum comfort and support, with a soft, stretchy material that conforms to the body. It is perfect for active lifestyles or as a sophisticated piece of underwear. The cotton stretch construction ensures a smooth, irritation-free fit, making it ideal for long-term wear. The hip brief is available in various colors and finishes, allowing you to choose the perfect look for your style.</p>	
Study Two (Female)			
Study Two (Male)			

For the alternative brand stimulus, the images and product description were slightly modified while maintaining similarities across different pamphlet versions. Keywords, such as “budget” and “affordable” were put in place to signal lower price in comparison to the elite brand. Similar to the control condition, the phrase “New Arrival” was used to describe the alternative product. The alternative brand stimuli for both Study One and Two can be seen in Table 4.7 (A clearer version of the stimuli are available in Appendix A and B).

Table 4.7: The Stimuli for Alternative Brands for Study One and Two

	Female	Male
Study One	 <p>DEUX LUX NEW ARRIVAL HANDBAG</p> <p>MINI DEUX LUX TOP HANDLE BAG</p>  <p><small>Crafted in leather, this mini De Luxe bag is ideal to carry a pair of sunglasses, two lipsticks and cosmetics and a beautiful 7 mm body strap - perfect for the office and for the weekend. The vibrant pattern of this season's handbag adds a sense of chic class, thanks to a fine and quality choice of fabric. The smooth leather fabric is divided into two practical compartments, each fastened with a top zipper and a smaller, smartphone pocket.</small></p> <p><small>D: 13 X: 21 H: 14.5</small></p> 	 <p>DEUX LUX NEW ARRIVAL HANDBAG</p> <p>DEUX LUX BRIEFCASE CALF LEATHER</p>  <p><small>Supreme elegance and functionality are the hallmarks of this leather briefcase. Crafted in smooth, oil calf leather, the briefcase has a sturdy construction and a practical interior. Perfect for all your go-to needs, it is made of a high-quality leather that is completely water-resistant. It features a large top pocket, a detachable strap, leather shoulder straps and a top inner zipper.</small></p> <p><small>D: 18 X: 41 H: 25</small></p> 
	Study Two	 <p>BAMBOO NEW ARRIVAL UNDERWEAR</p> <p>SEAMLESS BASIC BIKINI</p>  <p><small>Get into bamboo seamless cotton basics - a range that's anything but basic. With softening-making microfibres, top waistbands and eye-catching prints, it's Bamboo all the best. Our women's underwear range has distinct nod to the 1960s. A mid-rise cut makes it the perfect pair for anything up the everyday. You can never have too much of a good thing, which is why it's made with a blend of all body types. A great everyday piece, with a comfy fit, it covers and flatters with a lower leg line finish and low-rise waist.</small></p> 

4.5.2 Study Three – Luxury Fine Dining Restaurants

A total of 4 pamphlet versions were created (3 scarcity conditions with desired brand + alternative brand). Since the service category chosen was a restaurant, the stimuli were not differentiated based on gender. Similar to Study One and Two, the stimuli were created as identical as possible across different versions to avoid aesthetic biases.

For the supply-driven scarcity condition, the phrase “most unique” and “most exclusive” were used (Gierl & Huettl 2010); for the demand-driven scarcity condition, the phrases “most popular” and “highly in demand” were used; while for control condition, the word “new” was used to eliminate the perception of scarcity. To further emphasise the scarcity perception to the respondents, it was described that patrons are

encouraged to make reservations in all scarcity conditions. However, for both the supply-driven and demand-driven scarcity cue conditions, additional information stated that walk-ins are not accepted due to either increasing demand (demand-driven) or limited availability (supply-driven). For the alternative brand stimuli, keywords, such as “budget” and “affordable” were put in place to signal lower quality and price in comparison to the desired brand. However, to ensure consistency across stimuli, all pictures and information were placed in the same position and contained the same theme as the elite brand stimuli. Both elite and alternative fine-dining restaurant stimuli for Study Three can be seen in Table 4.8 (A clearer version of the stimuli are available in Appendix C).

Table 4.8: The Stimuli for Elite and Alternative Brands for Study Three

Elite Fine-dining Restaurant (Supply-driven Scarcity Condition)	Elite Fine-dining Restaurant (Control Condition)
<p>ALAIN DUCASSE</p> <p><i>Alain Ducasse au Plaza Athénée</i></p> <p><i>Alain Ducasse au Plaza Athénée is the MOST UNIQUE luxurious fine dining Michelin Star restaurant. It was voted as one of the best and most exclusive French Haute Cuisine restaurant in the world, serving only 50 tables in a day.</i></p> <p>MAKE RESERVATION: Lunch: 12:00 pm to 2:30 pm x 29.50 € Dinner: 7:30 pm to 10:30 pm x 39.50 € *4-10% DISCOUNT FOR RESERVATION No walk-ins are allowed in this restaurant. Reservations are required.</p> <p><i>To ensure an exceptional dining experience, all patrons are required to make table reservation. Due to increasing demand, some table sets are limited by limited availability. All patrons are encouraged to reserve table at least 4 weeks in advance.</i></p> <p>WORLD'S LUXURY RESTAURANT 2017 MICHELIN STAR VOTE</p>	<p>ALAIN DUCASSE</p> <p><i>Alain Ducasse au Plaza Athénée</i></p> <p><i>Alain Ducasse au Plaza Athénée is the new gastronomic luxurious Michelin Star restaurant offers naturally French Haute cuisine.</i></p> <p>MAKE RESERVATION: Lunch: 12:00 pm to 2:30 pm x 29.50 € Dinner: 7:30 pm to 10:30 pm x 39.50 € *4-10% DISCOUNT FOR RESERVATION No walk-ins are allowed in this restaurant. Reservations are required.</p> <p><i>To ensure an exceptional dining experience, all patrons are encouraged to make table reservation.</i></p> <p>WORLD'S LUXURY RESTAURANT 2017 MICHELIN STAR VOTE</p>
Elite Fine-dining Restaurant (Demand-driven Scarcity Condition)	Alternative Fine-dining Restaurant
<p>ALAIN DUCASSE</p> <p><i>Alain Ducasse au Plaza Athénée</i></p> <p><i>Alain Ducasse au Plaza Athénée is the MOST DELICIOUS luxurious fine dining Michelin Star restaurant. It was voted as one of the best and highly in demand French Haute Cuisine restaurant in the world.</i></p> <p>MAKE RESERVATION: Lunch: 12:00 pm to 2:30 pm x 29.50 € Dinner: 7:30 pm to 10:30 pm x 39.50 € *4-10% DISCOUNT FOR RESERVATION No walk-ins are allowed in this restaurant. Reservations are required.</p> <p><i>To ensure an exceptional dining experience, all patrons are required to make table reservation. Due to increasing demand, some table sets are limited by limited availability. All patrons are encouraged to reserve table at least 4 weeks in advance.</i></p> <p>WORLD'S LUXURY RESTAURANT 2017 MICHELIN STAR VOTE</p>	<p>LA BRASSERIE</p> <p><i>La Brasserie</i></p> <p><i>La Brasserie's menu of authentic French classic gastronomy restaurant. Delicacies and appetizers and affordable that is a summation of La Brasserie's food philosophy.</i></p> <p>MAKE RESERVATION: Lunch: 12:00 pm to 2:30 pm x 29.50 € Dinner: 7:30 pm to 10:30 pm x 39.50 € *4-10% DISCOUNT FOR RESERVATION No walk-ins are allowed in this restaurant. Reservations are required.</p> <p><i>To ensure an exceptional dining experience, all patrons are encouraged to make table reservation.</i></p> <p>WORLD'S LUXURY RESTAURANT 2017 MICHELIN STAR VOTE</p>

4.6 SURVEY INSTRUMENT

4.6.1 Self-administered Online Questionnaire

A self-administered online questionnaire was used for the survey instrument. Since the data are collected in a standard manner, it is important to confirm that the questions are articulated clearly so the questions are apprehended in the same way by each participant (Saunders et al., 2016). All scales used within the questionnaire were established scales which had been previously used and tested to guarantee the reliability and validity of the items. Some of the items were altered to fit the context of the study. Additionally, pilot testing was conducted on luxury consumers, prior to finalising the questionnaires in which a column labelled ‘ambiguous question’ next to each item was provided and respondents were allowed to make comment on each question. During the pilot test, the survey completion time was also monitored and kept within 15 to 20 minutes to avoid response fatigue. In addition, a few revisions were made after the pilot testing, such as: (1) grammatical errors and ambiguous questions were corrected and (2) order and flow of the questions were revised to ensure clarity. The pilot testing further confirmed that the chosen brand displayed in the stimuli was rather unfamiliar and exhibited a real luxury brand company pamphlet.

4.6.2 Questionnaire Design

The self-administered online questionnaire comprised a contents page and four sections. As mentioned previously, measures used in the study were established scales with Cronbach Alphas above 0.8, fulfilling the criteria suggested by Hair et al. (2010). The reliabilities of these scale items are available in Table 4.9. The survey also included attention checks throughout the questionnaire to ensure data quality. The attention checks included questions such as “If you read this question, please select disagree” or “If you read this question, please do not respond and move to the next question.” These attention checks is useful to identify careless respondents and screen them out before analysis are carried out (Maniaci & Rogge, 2014; Schmitt & Stults, 1985). The survey was structured with care and the items were checked several times to ensure its applicability to the luxury branding context. The sections within the survey will be discussed in the following sections (Full survey is available in Appendix D – Study One; Appendix E – Study Two; and Appendix F – Study Three).

Table 4.9: Reliability of the Scale Items

Scale	Source	No. of observed items	α
Perceived Scarcity	Byun & Sternquist (2012)	5	0.82
Perceived Competition	Byun & Mann (2011)	5	0.89
Perceived Value	Sweeney & Soutar (2001)	19	0.87
Purchase Intention	Dodds et al (1991)	5	0.96
Self-efficacy	Pedersen (2009)	5	0.87
Opinion leadership	Flynn et al. (1996)	6	0.91
Opinion seeking	Flynn et al. (1996)	6	0.92

4.6.2.1 Screening Questions

Screening questions were put in place to filter out those who either (1) are not luxury brand consumers, (2) have unfavourable attitudes towards the luxury brands, and (3) have extensive knowledge about the brand. First, to identify luxury brand consumers, two questions, namely, “Have you purchased luxury brands in the last 3 years?” and “If yes, how much was the estimated value of the item?” were presented to respondents. Only those who had purchased luxury brands with estimated value of more than AUD 1000 were included in the study. Second, to screen out respondents who had prior knowledge on the brand, the questions “I am knowledgeable about the X brand” and “I am familiar with X brand” were introduced, using a 7-point Likert scale (1 = “strongly disagree” to 7 = “strongly agree”). Respondents were screened out if they selected anything above 4 = “neither agree or disagree”. Screened out respondents were immediately directed to the final page and thanked for participating in the survey. Conversely, respondents that met all the criteria set, were directed to the start of the questionnaire.

4.6.2.2 Cover Page

The cover page consists of details such as the objectives of the study, the ethics clearance number (HRE2016-0198), and contact details to assure compliance to the ethical standards set by the Ethics Committee. The cover page also requested consent from respondents as per the policies of Curtin University’s Ethics Committee. Assurance to the respondents of the anonymity and confidentiality of their information

was provided. As non-fictitious brands were used in the studies, the respondents were informed that the study was not linked to any particular brand and the data served only for the fulfilment of a Doctoral degree (See Appendix G for the ethics approval form).

4.6.2.3 Section A: Introduction Video to the Selected Brand and Additional Screening Questions

A short video was presented in section A of the questionnaire to establish the elite brand. These videos were taken from the elite brands' official websites (Bottega Venetta, Icebreaker, and Alain Ducasse). As identified, although all the elite brands chosen were actual elite luxury brands, the chosen brands were unfamiliar. Hence, it is important to ensure that all respondents perceived the elite brand as luxurious and prestigious. The button to the next page only appeared after the video finishes to ensure respondents' understanding regarding the elite brand, but respondents were allowed to replay the video (See Appendix H for the video link).

To ensure the respondents perceive the elite brand as luxurious, additional screening questions were placed to screen out those who do not perceive the chosen luxury brands as luxurious. Questions like "I perceive the X brand to be luxurious", "I perceive the X brand to be exclusive", and "I perceive the X brand to be high-class" were posed, using a 7-point Likert scale (1 = "strongly disagree" to 7 = "strongly agree"). Similar to the previous screening questions, Respondents were screened out if they selected anything above 4 = "neither agree or disagree". Screened out respondents were immediately directed to the final page and thanked for participating in the survey. Conversely, respondents that met all the criteria set, continued to Section B.

4.6.2.4 Section B: Perceived Scarcity, Perceived Competition, Perceived Value, Self-efficacy, and Opinion leadership/Seeking

For Studies One and Two, respondents were presented with the stimuli for the study. However, for Study Three, prior to the presentation of the stimulus, respondents were asked to respond to 12 items relating to opinion leadership/seeking adopted from Flynn et al. (1996). The items were modified to fit the study context. All the items were measured on a 7-point Likert scale, with anchors ranging from 1 = "strongly disagree" to 7 = "strongly agree". Table 4.10 lists the items included in the survey for this section.

Table 4.10: Scale items for Opinion Leadership/Seeking

Scale	Source	No. of observed items	α
Opinion leadership	Flynn et al. (1996)	6	0.91
1. My opinion on food products does not seem to count to other people. 2. When they choose food products, other people do not turn to me for advice. 3. Other people rarely come to me for advice in choosing food products. 4. People that I know pick food products based on what I told them. 5. I often persuade other people to buy food products that I like. 6. I often influence people's opinion about food products.			
Opinion seeking	Flynn et al. (1996)	6	0.92
1. When I consider buying food products, I ask other people for advice. 2. I don't need to talk to others before I buy food products. 3. I rarely ask other people what food products to buy. 4. I like to get others' opinions before I buy food products. 5. I feel more comfortable buying food products when I have gotten other people's opinions on it. 6. When choosing food products, other people's opinion are not important to me.			

The stimuli for the elite brand were presented to respondents (Study One = Bottega Veneta; Study Two = Icebreaker; Study Three = Alain Ducasse). Since this research utilised a between-subject factorial design with three experimental conditions (demand-driven, supply-driven and control), conditions were randomised to account for systematic bias and differences within the sample pool (Field, 2013). For the first 20 seconds, participants were not allowed to proceed to the next page to ensure that they paid sufficient attention to the pamphlet displayed. The next button only appeared 20 seconds after the pamphlet first was displayed, but participants were allowed to spend more than 20 seconds to look through the pamphlet. Throughout this section, the pamphlet remained above the questions to allow participants to refer back to it if required. Participants were then asked to rate their agreement with items for the perceived scarcity (Byun & Strenquist, 2012), perceived competition (Byun & Mann, 2011), perceived value (Sweeney & Soutar, 2001), and self-efficacy (Pedersen, 2009) scales. All the items were measured on a 7-point Likert scale, with anchors ranging from 1 = "strongly disagree" to 7 = "strongly agree". Items were also adapted to fit the context of this research. Table 4.11 lists the items included in the survey for this section.

Table 4.11: Scale Items for Perceived Scarcity, Perceived Competition, Perceived Value and Self-efficacy

Scale	Source	No. of observed items	α
Perceived scarcity	Byun & Sternquist (2012)	5	0.82
<ol style="list-style-type: none"> 1. X is almost out of stock. 2. There are only limited numbers of X. 3. X is scarce. 4. X is mostly available (R). 5. I can get X easily (R). 			
Perceived competition	Byun & Mann (2011)	4	0.89
<ol style="list-style-type: none"> 1. I feel competition with other customers. 2. I am conscious about other customers' behaviour. 3. I feel like I am competing with other shoppers for X. 4. I feel like others will get X if I am not fast enough. 5. Trying to buy X is going to be a competition. 			
Perceived Value	Sweeney & Soutar (2001)	19	0.87
Study One and Two		Study Three	
<ol style="list-style-type: none"> 1. It is a product that I will enjoy. 2. It will make me want to use it. 3. It is a product that I will feel relaxed about using. 4. It will make me feel good. 5. It will give me pleasure. 6. It has consistent quality. 7. It is well made. 8. It has an acceptable standard of quality. 9. It has poor workmanship. 10. It will not last a long time. 11. It will perform consistently. 12. It will help me to feel acceptable. 13. It will improve the way I am perceived. 14. It will make a good impression on other people. 15. It will give its owner social approval. 16. It is reasonably priced. 17. It offers value for money. 18. It is a good product for the price. 19. It would be economical. 			
<ol style="list-style-type: none"> 1. It is a restaurant that I will enjoy. 2. It will make me want to experience it. 3. It is a restaurant that I will feel comfortable about experiencing. 4. It will make me feel good. 5. It will give me pleasure. 6. The food and service have consistent quality. 7. The restaurant will provide a well-packaged food and service quality. 8. The restaurant seems to have an acceptable standard of food and service quality. 9. The restaurant has poor culinary artistry. 10. The restaurant will not last a long time. 11. The restaurant seems to have reliable food and services quality. 12. Dining at the restaurant will help me to feel acceptable among others. 13. Dining at the restaurant will improve the way I am perceived. 14. Dining at the restaurant will make a good impression on other people. 15. Dining at the restaurant will give me social approval from other people. 16. It is reasonably priced. 17. It offers value for money. 18. It is a good restaurant for the price. 19. It would be economical. 			
Self-efficacy	Pedersen (2009)	5 (modified to 6 items)	0.87
<ol style="list-style-type: none"> 1. I am able to purchase X without the help of others. 2. I have the necessary time to purchase X. 3. I have the knowledge required to purchase X. 4. I have the skills required to purchase X. 5. I am able to purchase X reasonably well on my own. 6. I have the financial resources required to purchase X. 			

4.6.2.5 Section C: Stimulus for the alternative brand and Purchase Intention

The stimuli of the alternative brand were presented along with a description to demonstrate that the alternative brand was a non-luxurious brand which offers a similar yet affordable option. Similar to section A, screening questions to control for brand familiarity were placed prior to presenting the stimulus. Respondents were immediately directed to the final page and thanked for participating in the survey, if they had prior knowledge on the brand.

Following the stimulus for the alternative brand, respondents were then presented with a 5-item purchase intention scale adopted from Dodds et al. (1991). During this section, participants were given a chance to compare the two brands (elite and alternative) side by side allowing for better product comparisons. This was also done to emulate a real-life purchase decision whereby individuals are able to make comparisons between alternative products and brands (Simonson et al., 1994; d’Astous & Gargouri, 2001). Purchase intention was measured on a bipolar scale with 1 representing strong intention to purchase the alternative brand, 4 representing intention to purchase neither the alternative nor desired brand, and 7 representing strong intention to purchase the elite brand. The purchase intention rating served as a proxy to measure aggressive and submissive behaviour in consumer context. Therefore, items used a continuum scale in which option Table 4.12 listed the items included on the survey for this section.

Table 4.12: Scale Items for Purchase Intention

Purchase Intention	Dodds et al (1991)	5	0.96
1.	I have a high likelihood of purchasing _____.		
2.	I intend to buy _____.		
3.	I would absolutely consider buying _____.		
4.	In near future, I absolutely plan to buy _____.		
5.	I definitely expect to buy _____.		

4.6.2.6 Section D: Respondent’s Demographic Information

Respondents’ demographic information, such as gender, age group, marital status, occupation, current home ownership status, education qualification, annual income, and disposable income were measured in section D.

4.7 ANALYSIS METHOD AND STATISTICAL TECHNIQUES

The purpose of this study is to examine the hypothesised relationships between the perceived scarcity and competition to perceived value and purchase intention. The collected data was recorded and analysed in SPSS 23 and AMOS 25 program. Four statistical techniques were used including exploratory factor analysis, ANOVA, and Structural Equation Modelling (SEM), which includes Confirmatory Factor Analysis (CFA) and path analysis. Each of these techniques is outlined and justified in the following sections.

4.7.1 Exploratory Factor Analysis (EFA)

Exploratory factor analysis generally has three purposes: (1) to define the underlying structure among the variables in the analysis (Hair et al., 2016); (2) to design a questionnaire to measure an underlying variable; and (3) to minimise the number of items in a scale while retaining the original information as much as possible (Field, 2013). Despite the use of established and validated scales in this study, the dimensionality of the relevant factors needed be tested to keep multicollinearity between variables to a minimum. Maximum likelihood estimation was used to analyse the factor loadings. Maximum likelihood estimation is the recommended method to use especially when the study also employs AMOS for Structural Equation Modelling. Maximum likelihood estimation allows the researchers to test the statistical significance of factor loadings and compute a wide range of goodness of fit indices for the model (Cudeck & O'dell, 1994; Fabrigar et al., 1999). Given that established scales were employed in this study, the Oblimin with Kaiser Normalisation rotation method was used in the EFA (Hair et al., 2016). It is realistic to assume that only few constructs in the real world are uncorrelated and, thus Oblimin rotations are preferred to orthogonal rotation methods to acquire theoretically meaningful factors (Hair et al., 2016). According to Hair et al. (2016), a few rules of thumb are recommended in selecting the items and identifying factor structures, as identified in Table 4.13.

Table 4.13: Criteria for EFA

Eigenvalues (<i>represent the amount of variance accounted for by each factor</i>)	Eigenvalue > 1
Kaiser-Meyer-Olkin (<i>measures sampling adequacy</i>)	KMO > 0.5
Factor loadings (<i>indicate the correlation of each item and the factor</i>)	The loadings > 0.5
Reliability (<i>the degree to which an assessment tool produces stable and consistent results</i>)	Cronbach's Alpha (α) > 0.7

4.7.2 ANOVA

ANOVA is a statistical technique to test for the mean differences between two or more groups (Field, 2013). Addressing H1 and H2, one-way ANOVA was used to examine consumer differences in perceptions of scarcity and competition towards the three different scarcity conditions. ANOVA is preferred to multiple t-tests as the likelihood of Type I errors are lower (One-Way Anova, 2018). Thus, ANOVA was utilised in the current study.

On its own, ANOVA, an omnibus test statistic, does not provide information regarding which specific groups were significantly different from each other (Online Statistics Education, 2018). As such, a post hoc test, specifically, the Bonferroni procedure, was also used to compare all different combinations of the treatment groups (Fields, 2013). Bonferroni is useful for a small set of planned comparisons. Although the Bonferroni procedure uses t-tests to compare mean between groups, the overall error rate is controlled by setting the error rate for each test to the experiment wise error rate divided by the total number of tests; adjusting the observed significance level (Field, 2013).

4.7.3 Structural Equation Modelling (SEM)

Structural Equation Modelling (SEM) was employed to test relationships between the key variables and to examine mediation effect of self-efficacy (H3 to H6). It was also employed to examine the three-way interaction between perceived value, self-efficacy and opinion leadership/seeking in Study Three (H7).

SEM has been widely applied in social science studies and has become an important tool for a broad scientific public (Nachtigall et al., 2003) and is deemed as a more appropriate compared to traditional statistical techniques (e.g. multiple regression) due to a number of reasons. First, SEM combines both factor analysis and multiple

regression analysis to examine the structural relationships between measured items and latent constructs (Byrne, 2001). Second, it provides better stability in the parameter estimates as it takes into account measurement errors during the estimation process (Kline, 2005). Third, SEM is able to analyse more than one endogenous and exogenous variable simultaneously, making it suitable for studies with multiple latent constructs. The direct effect, indirect effect and total effect can also be estimated simultaneously (Nachtigall et al., 2003). Last, SEM uses a diagram which offers convenience in presenting complex relationships. As such, SEM was applied to test the hypotheses from the proposed framework.

The process of testing a SEM includes both measurement and structural model testing, which is discussed in the next section. All congeneric, measurement and structural models were assessed to achieve the recommended model fit criteria (Brown, 2003; Byrne, 2001; Holmes-Smith, Coote, & Cunningham, 2006). The fit indices utilised in this study and their acceptable levels are identified in Table 4.8.

Table 4.14: Criteria for CFA and Structural Model

Fit Measure	Acceptable Level
Normed Chi-square (χ^2/df)	$1.0 < \chi^2/df < 3.0$ (Holmes-Smith & Coote, 2002)
Goodness-of-fit Index (GFI)	GFI $> .90$ (Byrne, 2001; Kline, 2005)
Comparative Fit Index (CFI)	$> .90$ (Byrne, 2001; Kline, 2005)
Tucker-Lewis Index (TLI)	$> .90$ (Byrne, 2001; Kline, 2005)
Root Mean-Square Error of Approximation (RMSEA)	RMSEA $< .08$ (Brown 2003)

4.7.3.1 Confirmatory Factor Analysis (CFA)

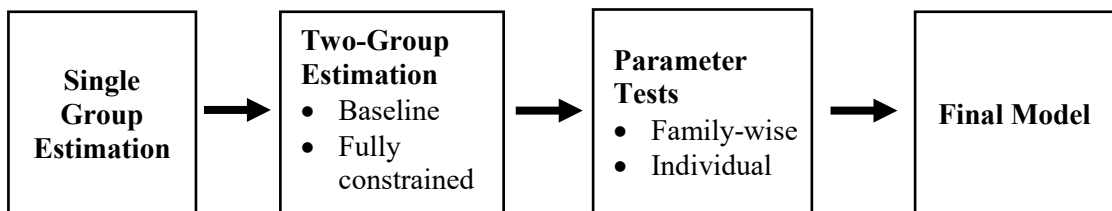
Measurement models were tested using Confirmatory Factor Analysis (CFA). CFA was conducted to confirm the measurement model fit prior to the testing of the hypothesised relationships. CFA is similar to EFA but serves a distinct purpose. EFA explores the data and identifies factors from statistical results (Hair et al. 2016). It is done without prior knowledge on the number of factors and which items belong to which factors. On the other hand, CFA tests how well measured variables representing smaller number of constructs based on the measurement theory (Hair et al. 2016). With CFA, the factors along with the set of items that fall within the factors must be specified before results can be computed (Hair et al. 2016). Since this research

performed both EFA and CFA to ensure the factor dimensionality of the items, the items removed from the EFA were not included in the CFA. Comparing CFA with EFA demonstrates the factor loadings, covariance, and correlation are consistent and valid for further theory testing.

4.7.3.2 Path Analysis

Once the measurement models were confirmed for fit, a structural model was specified. This research applied the four-step procedure suggested by Jap and Anderson (2003) to test the hypothesised structural model. An overview of the four-step procedure is shown in Figure 4.1. The step-by-step procedure will be explained in stand-alone journal article chapters (Chapter Five, Six and Seven) in detail.

Figure 4.1: Structural Model Analysis Strategy



Furthermore, this research uses interaction analysis to test the moderation effect (two-way interaction) of self-efficacy towards perceived value and purchase intention; and the three-way interaction between perceived value, self-efficacy and opinion leadership/seeking (Study Three). Interactions enable more precise explanation of causal effects by identifying how an independent variable influences a dependent variable and under what circumstances the effect of the independent variable changes depending on the moderating variable (Hair et al., 2010).

4.8 CONCLUDING COMMENTS

This chapter discussed the method applied to gather data and the statistical techniques used to analyse and obtain results for the proposed hypotheses in the research framework.

The chapter justified the use of Australian population as the sampling frame and how the data was collected. The use of the self-administered online questionnaire as the research instrument was justified and items measuring the key constructs were identified. Since the research used non-fictional brands as the stimuli, the process of selecting the product categories and brands was also discussed; and the development of the stimulus was explained. Moreover, the use of EFA, ANOVA, CFA and path analysis to examine the hypothesised relationship was outlined.

The following chapters, Chapters Five, Six and Seven will report and discuss Studies One, Two and Three respectively. The table below provides the objectives of each chapter and the product categories which will be analysed.

Chapter	Product Category	Chapter Objectives
Chapter Five (Study One)	Publicly consumed luxury-branded product (bag)	<ul style="list-style-type: none">• Theory building (by extending the theory of agonistic behaviour to consumer studies)• Conceptual framework development
Chapter Six (Study Two)	Privately consumed luxury-branded product (underwear)	<ul style="list-style-type: none">• Validation of the theoretical model• Generalisation study to a different product category (privately consumed product)
Chapter Seven (Study Three)	Luxury experiential service product (fine-dining restaurant)	<ul style="list-style-type: none">• Generalisation study to a different product category (experiential service)• Testing of moderator (opinion leadership/seeking)

CHAPTER FIVE (STUDY ONE)

WHAT FAR WOULD YOU GO FOR AN HERMES BIRKIN BAG? CONCEPTUALIZING THEORY OF AGONISTIC BEHAVIOUR IN LUXURY BRANDING

5.1 CHAPTER INTRODUCTION

Chapters Five, Six and Seven follow a stand-alone journal article structure, providing a three-chapter sequence from one journal article to the next. Chapter Five, the current chapter, represents Study One and focuses mainly on extending the theory of agonistic behaviour from the field of biological sciences to consumer behaviour. Specifically, Study One aims to develop a theoretical framework to explain consumer behaviour towards the different heuristic scarcity cues in luxury branding context. This study also focuses on publicly-consumed (conspicuous) luxury-branded products. This chapter shows a clear record of the analyses conducted in Study One and delivers the findings relevant to this study. The following table illustrates the objectives for Chapters Five, Six and Seven respectively.

Chapter	Product Category	Chapter Objectives
Chapter Five (Study One)	Publicly consumed luxury-branded product (bag)	<ul style="list-style-type: none">• Theory building (by extending the theory of agonistic behaviour to consumer studies)• Conceptual framework development
Chapter Six (Study Two)	Privately consumed luxury-branded product (underwear)	<ul style="list-style-type: none">• Validation of the theoretical model• Generalisation study to a different product category (privately consumed product)
Chapter Seven (Study Three)	Luxury experiential service product (fine-dining restaurant)	<ul style="list-style-type: none">• Generalisation study to a different product category (experiential service)• Testing of moderator (opinion leadership/seeking)

The structure of this chapter is as follows. The chapter opens with an abstract of the study followed by an introduction to provide the study's background. Then, a summary of the relevant literature and hypotheses development is presented. The chapter continues with the research methodology, the results of the hypotheses testing. The chapter concludes with a discussion of the results and a conclusion.

5.2 ABSTRACT

Purpose – This study develops a theoretical framework by conceptualising the theory of agonistic behaviour to the consumer behaviour in a luxury branding context. Based on the developed framework, this paper examines how the different scarcity conditions (demand-driven or supply-driven) influence consumers' perception of the product which in turn leads to purchase intention.

Design/methodology/approach – A self-administered questionnaire was designed using established scales and non-fictitious luxury brands were utilised as a stimulus to create a realistic scenario. Data was collected in Australia using Qualtrics in which screening questions were put in place to ensure the respondents are luxury consumers. One-way ANOVA and Structural Equation Modelling was used to analyse the data.

Findings – The results showed that the proposed theoretical model is applicable in explaining the consumed behaviour in a luxury-branding context. The results also highlight the role of perceived competition in determining the perceived value of luxury-branded items, and the role self-efficacy as a moderator between perceived value and purchase intention.

Practical implications – This research provides an understanding of consumers' perception towards luxury brands presented in different heuristic scarcity cues. The research findings showed that creating the illusion of scarcity and exclusivity is not sufficient to increase the product value perception and purchase intention. Companies should also ensure that the products are desirable and the brand itself possesses high awareness amongst the target markets.

Originality/value – This paper conceptualises the theory of agonistic behaviour, adopted from animal behaviour, to consumers' behaviour which offers a significant theoretical contribution to marketing theory. Further, this study uses the S-O-R model to support the theory of agonistic behaviour to explain how consumers respond to the different heuristic scarcity cues in a luxury branding context. This study also incorporates perceived competition as an antecedent towards perceived value and investigates how consumers perceive competition levels of the different heuristic scarcity cues.

5.3 INTRODUCTION

In 2017, the 2014 edition of the Hermès' Himalaya Birkin bag broke the record to become the most expensive handbag in the world (Chen, 2017). After 15 minutes of intense bidding, the luxurious handbag, made from white crocodile skin and diamond-encrusted 18-karat gold buckles, was sold at an auction in Hong Kong for \$380,000, exceeding the previous record of \$300,000 also held by a Hermès handbag (Lang, 2017). The high demand for the handbag was cited as the main contributor because Hermès only made one or two Himalaya bags per year, making it scarce and exclusive.

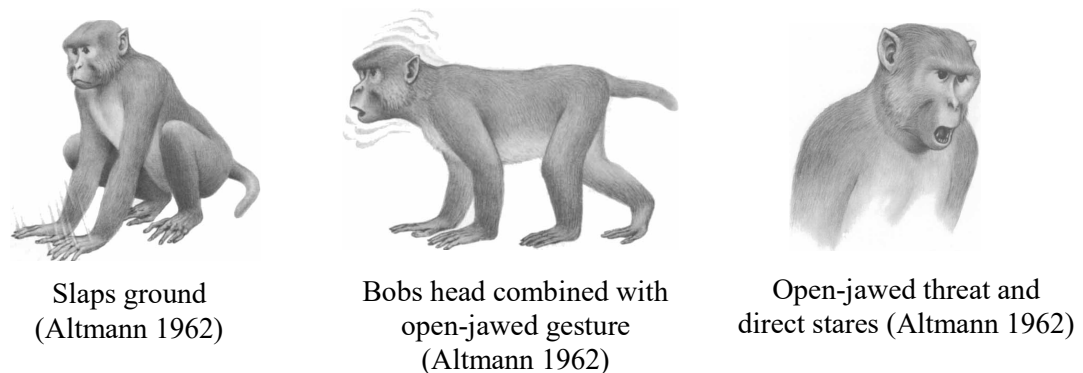
The Himalaya, however, is not the only expensive Birkin handbag from Hermès. The Hermès Birkin is renowned for its exceptional exclusivity and garners high demand. Purchasing a Birkin directly from Hermès stores is almost impossible as the handbags are often out of stock and there are waiting lists that can extend to up to six years. Getting on the waiting list in the first place is also a struggle since customers are ranked based on previous purchases and rapport with the company. The company intentionally creates the perception that the bag is rare to maintain its brand equity and prestige. As a result, many customers settle for pre-loved Birkin handbags and are willing to bid a high price to obtain one of them.

This phenomenon demonstrates how consumers can be irrational in competing for products that are scarce and perceived to be in high demand. Often, consumers arrive early before a store opens to secure a spot in a queue to obtain scarce and rare products. All over the world, consumers can be seen queuing and even staying the night prior to the launch of a new Apple iPhone to ensure that they will be the first to purchase the new iPhone. Consumers also often hoard items in their trollies and keep it for themselves while shopping despite being uncertain whether they are going to purchase them or not (Byun & Sternquist, 2012). In some extreme cases, shoppers turn violent, fighting over products they perceive to be scarce. A classic example of this is the aggression displayed during Black Friday sales, with shoppers pushing and challenging one another on the shop floor as they grapple for reduced priced items (Raymen & Smith, 2015). These behaviours illustrate how humans may begin to act like animals when competing for scarce products.

Indeed, humans do not exhibit the same behaviours to scare away competitors like animals do. However, parallels may be observed in how humans and animals compete

for resources. When animals compete for resources, instead of immediately fighting one another, animals often begin with a display of specific behaviours to scare the opponent away, avoiding physical contact. This behaviour is called as agonistic behaviour. For instance, as illustrated in Figure 5.1, when competing for food, monkeys are likely to slaps the ground, followed by an open-jawed gesture, accompanied by a direct stare and head-bobbing towards their opponents (Altmann, 1962). If the opponent retreats, the winner claims the food and the opponent is forced to settle for an alternative resource. On the other hand, if the opponent does not retreat, they start hitting and biting each other up to the point where one concedes defeat. Similarly, using the example of a rare Hermès Birkin, some consumers may choose to submit and not compete by purchasing alternative brands (e.g. other luxury brands, counterfeits, or mimic brands), while others may choose to fight by entering a bidding war for the handbag.

Figure 5.1: Threatening Behaviour in Monkeys



Although brands like Hermès maintain their exclusivity and prestige amongst luxury consumers, numerous other luxury brands are struggling due to brand dilution. The number of luxury consumers has increased significantly over the past 20 years (Bain & Company, 2018), and luxury brands have already attracted customers across social classes (Yeoman & McMahon-Beattie, 2014). As the circle of luxury brand owners expands, the exclusivity of luxury brands fades rapidly. For instance, in 2011, the reputation of the Burberry brand was reported to be negatively affected by the popularity and substantial growth in sales of its products amongst groups of consumers perceived to be ‘non-Burberry consumers’ (Simonet & Virgile, 2013). Luxury consumers who possess cultural capital in the luxury domain refuse to purchase specific brands that are deemed as too popular and mainstream in the market.

5.3.1 Justification of the Study

Therefore, this study focuses on luxury brands industry to understand how consumers perceive product scarcity and to identify how luxury brands can manage scarcity perception in consumers' mind. Companies can evoke the perception of scarcity in a number different ways, namely, demand-driven, supply-driven and time restricted scarcity cues. However, different scarcity cues result in distinct product valuations that lead to different product choices (Gierl & Huettl, 2010). Companies need to choose the most suitable scarcity cues to communicate the right image for the brand. To understand consumers response and behaviour towards product scarcity, this study looks at the most fundamental concept on how an individual responds to resource scarcity. As previously discussed, there are behavioural similarities between animals and human beings. Therefore, this study attempts to extend biology and evolutionary theory, specifically, the theory of agonistic behaviour, to a marketing context. It draws parallels between the different disciplines to provide insights on consumer behaviour towards product scarcity.

Despite the similar competitive patterns between animals and consumers, limited studies have conceptualised the competitive behaviour in relation to the biology theory. To date, competitive behaviour has attributed to different theories, such as the achievement motive (e.g. Helmreich & Spence, 1983; Murray, 1938) and 3M model of motivation (Mowen, 2000). Nevertheless, little is known about how agonistic behaviour in animals can be extended to a consumer behaviour context. Although the perception of scarcity and competition are related (e.g. Verhallen & Robben, 1994), the influence of competition has rarely been investigated in the context of product scarcity.

Additionally, despite extensive research on scarcity in the literature, knowledge in the area is still lacking. First, limited studies have identified the effectiveness of different scarcity cues, specifically supply-driven and demand-driven scarcity cues in the context of luxury brands (e.g., Lynn, 1991; Worchel et al., 1975). Indeed, Gierl and Huettl (2010) have investigated the influence of supply-driven and demand-driven scarcity cues towards both publicly-consumed and privately consumed products, yet the study does not look at the luxury branding industry. Luxury and non-luxury brands are different by nature, and, thus, these results cannot be generalised and assumed to

be identical. Second, limited studies identified consumers' perception of scarcity and competition of the different scarcity cues (supply-driven and demand-driven cues) in the context of luxury brands. Last, limited studies identified the adverse effect of scarcity cues as it may deter consumers to purchase the product and seek alternative options as underlined in the theory of agonistic behaviour.

5.3.2 The Scope and Research Objectives of the Study

The scope of the study is limited to two different scarcity cues such as supply-driven and demand-driven scarcity cues because the two are relevant and often observed in a luxury branding context (e.g. Bian & Forsythe, 2012; Jang et al., 2015). Further, this study also only focuses on publicly consumed luxury-branded products, specifically, fashion products. Since it is generally consumed in public view, publicly consumed luxury-branded products such as clothing, designer bag, shoes, and watches are prominent objects to demonstrate luxury (Childers & Rao, 1992; Phau & Teah, 2009; Wall & Large, 2010). In general, shoes, jewellery and designer bags are the three fastest-growing product categories in 2017, but the majority of the market is still dominated by clothing, beauty, and designer bags (Bain & Company, 2017). Therefore, this study uses designer bags as the stimulus for the study and non-fictitious brands are chosen to create a realistic scenario for the respondents.

Moreover, the current research focuses on elite luxury brands and alternative (non-elite) brands. The elite-level luxury brands are the top of the top luxury hierarchy – generally are bespoke and not accessible to the mass market – that serve as the benchmark of highest exclusivity and best quality (Rambourg, 2014). Alternative brands are brands that serve as a close substitute for the first brand choice (e.g., mimic brands and counterfeits of luxury-branded products) (adapted from Ang et al., 2001; Teah, 2010). Accordingly, this research aims to use purchase intention for elite luxury brands and alternative (non-elite) brands as a proxy for 'aggressive' and 'submissive' behaviour.

The research objectives addressed in this study are as follow:

RO1: To develop a conceptual framework to understand how the theory of agonistic behaviour can be conceptualised in a consumer behaviour context;

- RO2:** To determine the relative effects of various scarcity cues (supply-driven, demand-driven, and control) on perceptions of product scarcity and competitiveness;
- RO3:** To evaluate the influence of perceived scarcity and competition on perceived value which, in turn, influences purchase intention in the context of publicly consumed luxury-branded products; and
- RO4:** To examine the moderating role of self-efficacy on the relationship between perceived value and purchase intention.

5.4 RELEVANT LITERATURE AND HYPOTHESIS DEVELOPMENT

5.4.1 Scarcity

Scarcity cues have become one of the most popular persuasion heuristic signals in marketing to influence consumers' perception, attitude, and intention to purchase a particular product (Gierl & Huettl, 2010; Eisend, 2008). Scarce commodities constrain the freedom of individuals to obtain the product that they wish (Worchel et al., 1975). As stated in the *psychological reactance theory* developed by Jack Brehm (1966), whenever free choice is limited or threatened, individuals may experience psychological reactance. It is a motivational state where individuals are pressured to re-establish their threatened freedom (Brehm, 1966; Heilman & Toffler, 1976; Pratkanis & Farquhar, 1992). To anticipate the losses that may occur from not buying, individuals tend to desire products where limitations are placed (Aggarwal et al., 2011). As such, scarce products are likely to be perceived as more valuable and attractive (Lynn, 1991), which leads to a sense of urgency and impulsiveness in the purchase of the resources (Aggarwal et al., 2011). A study by Knishinsky (1982) found that respondents, who were told that there would be a decrease in a supply of beef, bought twice the amount of beef compared to respondents who did not know such information.

Product scarcity cues can be created by marketers in different ways including through limited quantity constrained strategies (such as demand-driven or supply-driven) or limited time constrained strategies. As identified, this study only focuses on scarcity cues generated through limited quantity constrained strategy (demand-driven and supply-driven scarcity cue). Demand-driven scarcity can be signalled with phrases such as "already 90% of our stock sold" or "due to high demand, nearly sold out" (Verhallen, 1982). These cues indicate that there is only limited stock available in store since the majority of products have been sold. Scarcity due to limited supply, on the other hand, occurs when the companies produce a limited number of products, intentionally or unintentionally (due to limited availability of resources), rendering the product not sufficient to satisfy market demand. Supply-based scarcity can be signalled through the phrases such as "limited edition" or "limited availability due to limited supply."

Interestingly, the product's scarcity does not always have a positive effect on consumers' attitudes toward the product. Supply-driven scarcity cues are more effective for publicly consumed items and not effective for privately consumed items (Gierl & Huettl, 2010). When products are scarce due to quantity constraints, consumers tend to perceive it as unique, distinct, and novel (Szybillo, 1975). Therefore, consumers who have a high need for uniqueness often respond to scarcity products in a positive manner (Fromkin, 1970). They are more likely to perceive the product as more valuable and, in turn, have a higher intention to purchase the product. Supply-driven scarcity works more effectively for conspicuous products that have high symbolic value and are used to display status and uniqueness (Gierl & Huettl, 2010).

On the other hand, demand-driven scarcity cues indicate that there are a high number of individuals who have purchased the products and thus, there is only limited stock available in store. Products that are perceived to be scarce due to high demand tend to be regarded as high-quality and superior products. This is due to the fact that when many diverse consumers make decisions individually, the average of these decisions is more likely point towards better options and remarkably accurate (Van Herpen et al., 2009). Moreover, when purchasing products high in demand, consumers are more likely to associate themselves with other buyers (Gierl & Huettl, 2010) and to conform to others. Nevertheless, the opposite may occur in which individuals avoid products which are perceived to be too popular as they want to create a personal identity. Individuals want to conform to others but not be seen as identical to them (Brewer 1991). Owning identical items as relevant others can challenge their personal identity which may lead to them rejecting products that are too popular. Thus, demand-driven scarcity cues are more useful for privately consumed products and not for publicly consumed products (Gierl & Huettl, 2010).

5.4.2 Scarcity in the Luxury Brand Industry

The luxury branding industry is an industry which has long thrived due to the perception of scarcity and exclusivity. Luxury brands are the highest level of prestigious brands whose price and quality ratios are the highest of the market; although the percentage of functionality to price might be low, the rate of symbolic and intangible utility to price is relatively high (Nueno & Quelch, 1998; Vigneron & Johnson, 1999). Luxury brands are known for their distinct symbolic features (Hudders

et al., 2013). In consumers' minds, luxury brands have a high level of non-functional attributes such as a high degree of aesthetics, rarity, price, extraordinariness, and quality (Heine, 2012). Therefore, symbolic attributes have become the selling point of luxury brands (Pantzalis, 1995; Phau & Prendergast, 2000). Rarity, exclusivity, and prestige create a sense of true luxury for the consumers. Luxury consumers also tend to have an emotional attachment towards luxury brands (Latter, Phau & Marchegiani, 2010). Purchasing luxury brands allow consumers to become one of the elite and achieve a social status where others want to be like them. Individuals who wear luxury branded labels are perceived as wealthier and receive higher status ratings (Nelissen & Meijers, 2011). Consequently, it has mainly been found that consumers are more likely to purchase luxury brands to enhance their social status as such brands cannot be easily obtained by the mass market (Clark, Zboja, & Goldsmith, 2007).

As such, luxury brands have to sustain an equilibrium between the level of exposure and production. Dubois and Paternault (1995) revealed the secret formula of a successful luxury brand positioning, which involves different factors, namely dream value, brand awareness, and purchasing behaviour of luxury brands. The authors suggested that consumers' purchase intention of luxury brand increases when consumers are more aware of the brand, yet an increase in the ownership of a luxury brand may cause a decline in consumers' purchase intention of luxury brands (Dubois & Paternault, 1995; Phau & Prendergast, 2000). Due to this paradox, it is vital to ensure that the supply of luxury brands is always below demand. Thus, luxury brands face the challenge of growing while maintaining its brand positioning as luxurious and prestigious.

5.4.3 The Rise of Luxury for the Masses

In recent years, the luxury brand industry has widened its customer reach, making it accessible to the masses, contradicting with the traditional idea of exclusivity and uniqueness that was always the essence of true luxury (Simonet & Virgile, 2013). Many brands within the luxury markets are stretching the boundaries by selling a massive number of products (Catry, 2003). Additionally, together with the growth of counterfeits luxury-branded items (e.g., Lin, 2011), the increasing wealth of millions of consumers (e.g., Yeoman & McMahon-Beattie, 2011) and the production of less expensive new luxury goods (Silverstein & Fiske, 2003), the meaning of luxury has

been redefined (Eckhardt et al., 2015). The number of luxury brand owners has increased significantly and the perception of scarcity and exclusivity has started to fade. Louis Vuitton, for example, is extremely popular with the middle class and considered as a ‘brand for secretaries’ in China (Willett, 2015). Other examples include Swarovski crystals retailing for as low as \$20 (Truong et al., 2009) or Montblanc’s line of Euroclassique pens retailing under \$90 (Nueno & Quelch, 1998). As a result, many consumers may choose to avoid their favourite luxury brand as it is perceived to be too prevalent in the market, conveying conformity instead of uniqueness and superiority.

The massification of luxury has become the motivation of this study that aims at solving the growth dilemma for luxury brands companies. Therefore, this study seeks to manage consumer scarcity perceptions of luxury brands by understanding the most basic concept of consumers’ behaviour using biological sciences, specifically animal behaviour.

5.4.4 Theoretical Framework

5.4.4.1 The Theory of Agonistic Behaviour

As Darwin’s Theory of Evolution states, the inferior (disadvantaged) members of a species would gradually die out, leaving only the superior (advantaged) members of the species (Darwin & Bynum, 2009). As resources for survival (e.g., food, shelter, and mate) have been and will always be scarce (Mursa, 2012), competition is an inevitable consequence of scarcity in a social context.

To survive, animals are often required to fight to achieve a defined territory which provides food, shelter, and breeding opportunities. These specific social behaviours associated with fighting and competition in animals is called agonistic behaviour. It is defined as a group of behavioural adjustments related to fighting, and includes threat, defense, attack, escape and conciliation (Scott & Fredericson, 1951). Competition between individuals of the same species seldom cause serious injury to either party, and hardly ever end in death. These fights are highly organised and civilised. It presents as a contest (instead of a mortal struggle) which is faithfully adhered to by all members of the species and almost never violated (Eisner & Wilson, 1975).

The theory of agonistic behaviour comprises three different stages, namely, threat, aggression, and submission. In the first stage, ‘threat,’ animals perform species-specific vocalisations, postures, facial, and body movements that signal the intent to display aggression (McGlone, 1986). As illustrated in Figure 5.2, when competing for scarce resources, crayfishes assert their superiority with a meral threat display with their major chelae to increase their apparent size and to expose a brightly-coloured depression on the dorsal surface of the raptorial appendage (Moore, 2007). The threat will then lead to two possible scenarios. In the first scenario, the opponent decides to withdraw from the competition after being threatened, displaying ‘submissive’ behaviour. For example, a crayfish will turn away from the rival. In the second scenario, neither animal retreats and a fight then escalates, displaying ‘aggressive’ behaviour. Both crayfish wrestle and use their chelae to injure the opponent until one of the animals reacts in ‘submissive’ behaviour.

Figure 5.2: Agonistic Behaviour Stages in Crayfish



Threat stage: Meral threat display with major chelae to increase size (Bowling Green State University 2018)



Aggression stage: Wrestling and restrained use of the claws (Bowling Green State University 2018)

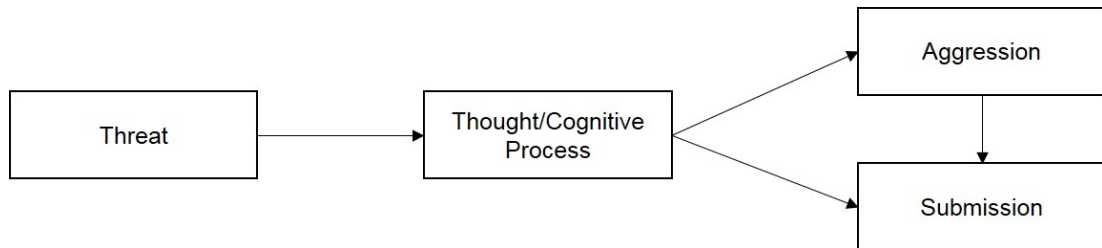


Submission stage: One crayfish turns and dominance is established (Bowling Green State University 2018)

However, as shown in figure 5.3, before animals decide between being aggressive or submissive, they often evaluate external and internal factors; a stage conceptualises as thought/cognitive process (Premack, 2007). For instance, the body size and physical attributes are one of the main factors that influence the decision to be aggressive or submissive. Animals with large body sizes and superior body attributes are more likely to be aggressive and win the fight because they are stronger and has a more competitive advantage as compared to the smaller one (Schuett, 1997; Wise & Jaeger, 1998). Other than the body size and physical attributes, the value of the resources also influences the decision of being aggressive or submissive. Previous studies have found that the higher the value of the resource, the higher the intensity of the agonistic behaviour

(e.g. Bergman & Moore, 2003; Dimarco & Hanlon, 1997; Enquist & Leimar, 1987; Gabor & Jaeger, 1995; Murray et al., 2007).

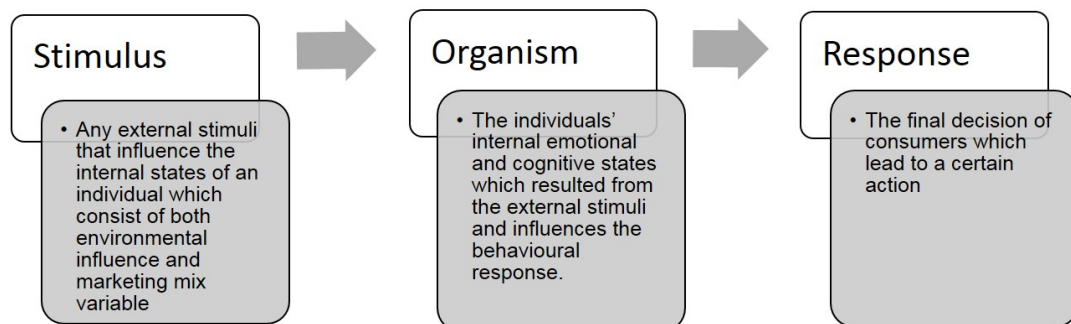
Figure 5.3: Agonistic Behaviour Stages along with the Cognitive Process



5.4.4.2 Stimulus-Organism-Response (S-O-R) model

To operationalise the theory in the context of consumer behaviour towards luxury products, the S-O-R model is also applied for the purposes of the current study. The S-O-R model offers a suitable theoretical framework to support the theory of agonistic behaviour due to similarities between the two theories. Similar to the theory of agonistic behaviour, the S-O-R model consists of three elements to provide a general framework in explaining an individual's action. The three elements are stimulus, organism, and response (Mehrabian & Russell, 1974). Developed by Mehrabian and Russell (1974), the S-O-R model has been widely applied in retail environments (Buckley, 1991; Chang et al., 2011) and for products with different levels of involvement (Arora, 1982). The S-O-R model has also been adopted as a framework to understand consumers' impulsive purchase behaviour resulted from the scarcity effect (Chang et al., 2011). Figure 5.3 demonstrates the general framework of the S-O-R model.

Figure 5.4: The S-O-R Model



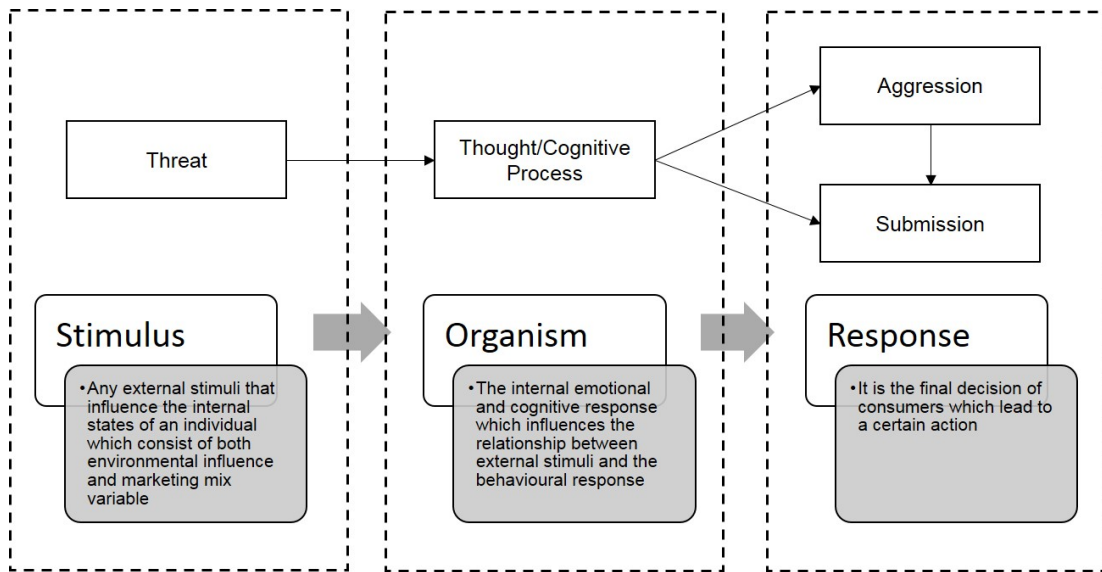
Stimulus (S) is defined as any external stimuli or situation that influences the internal state of an individual and consists of both environmental influences and marketing mix variables (Bagozzi, 1986; Eroglu et al., 2005). Similarly, referring to the theory of agonistic behaviour, when the resources are perceived to be scarce, animals perform species-specific behaviour to threaten their opponents or physically fight. These behaviours are formed based on environmental influences (in this situation, the scarcity of resources). This stage, according to the theory of agonistic behaviour, is called the 'threat.' This first stage of the agonistic behaviour, threat, can be argued to align with the stimulus (S) component in the S-O-R model.

Organism (O) is defined as the individual's emotional and cognitive states which results from a reaction to external stimuli and influences the behavioural response (Bagozzi, 1986). Similarly, according to the theory of agonistic behaviour, the threat of limited resources and other competitors prompt animals to undergo a thought process which determines whether they fight or submit. Therefore, the organism (O) component of the S-O-R model can be compared to the cognitive process in the theory of agonistic behaviour.

The individual's internal states (O) then leads to behaviour action, which is the response (R). Similarly, in the theory of agonistic behaviour, animals make a final decision whether they will fight or submit following a cognitive process. If both parties choose aggression, they fight until one of them submits. As such, the decision to either be aggressive or submissive behaviour can be equated to the response (R) in the S-O-R model.

For the purposes of this study, the 'stimuli' is operationalised as the threat; the 'organism' is operationalised as the consumer's cognitive process (perception of value); and the 'response' is operationalised as the choice between aggression and submission (purchase intention of either desired/elite brand, alternative brand or neither), as shown in Figure 5.4.

Figure 5.5: The S-O-R Model with the Stages of Agonistic Behaviour



The S-O-R model, in relation to the agonistic behaviour theory, is outlined below:

Stimulus

As identified, the ‘threat’ serves as a stimulus to the individual. Animals perform species-specific behaviours to show superiority to scare the opponents away. In a consumer behaviour context, the threat is not necessarily triggered by the presence of other consumers, it can also be created by marketers using heuristic scarcity cues (Cialdini, 2009; Gitlin, 2007). Products with heuristic scarcity cues, such as “limited edition” or “nearly sold out” cues, are more likely to be perceived as scarce and highly sought after by consumers (Kristofferson et al., 2016).

Perceived Scarcity

Perceived scarcity refers to the perceived or experienced product shortage (Byun & Strenquist, 2012). Product availability can be intentionally limited by constraining the supply of a product to accelerate purchase (e.g. limited editions). Marketers may also point out the fact that certain products are selling fast by including demand-driven scarcity cue (e.g. products are nearly sold out). As both of these heuristic scarcity cues signify that the product availability is limited, they are likely to be perceived as scarce. As identified in the previous chapter, scarcity of resources is a major reason motivating agonistic behaviour. According to the *psychological reactance theory*, scarce products constrains consumers’ freedom to choose (Brehm, 1966), and, thus, it becomes a threat

to freedom of choice. Although psychological reactance theory mainly relates to resources that are necessary for survival, previous studies have found a similar behavioural pattern for non-survival resources in resource-rich consumer environments (Kristofferson et al., 2016; Lynn, 1992a, 1992b). For instance, Lessne (1987) found that “One Day Only” sales resulted in greater purchase intention in comparison to advertisements for “Three Day Only” or “Five Day” only sales. Verhallen (1982) also found that rare recipe books are perceived to be more attractive, expensive and valuable in comparison to readily available ones. These examples show that heuristic scarcity cues influence consumer perception of the product availability.

These results demonstrate the importance of the heuristic scarcity cues in influencing the perception of scarcity in consumers’ mind. As such, respondents in the demand- or supply-driven scarcity cues conditions, are hypothesised to have higher perception of scarcity as compared to respondents in the control condition. However, it is expected that there is no significant difference between the supply- and demand-driven scarcity cues conditions, since both scarcity cues indicate limited availability. As such, the following hypothesis is developed:

H1. Perceived scarcity is not significantly different in both demand-driven and supply-driven scarcity conditions, but is significantly lower in the control condition.

Perceived Competition

Based on the theory of agonistic behaviour, animals have to fight others in order to obtain scarce resources that are needed to survive (Mursa, 2012). Although the theory of agonistic behaviour relates to scarce resources which are crucial for survival, aggressive and competitive behaviour in consumers may also be observed for scarce non-survival resources (Kristoferson et al., 2016), as evidenced through Black Friday sales (Lennon et al., 2011).

Limited product availability restricts the number of individuals who can obtain the products. Hence, consumers tend to assume that they have to be fast in purchasing products before others (Byun & Mann, 2011), fostering competition between individuals. As previously conceptualised, regardless of the competitors’ visibility, the perception of competition among consumers can be created using heuristic scarcity cues (Aggarwal et al., 2011; Grossman & Medoza, 2003). Previous studies have also

shown that heuristic scarcity cues increases uncertainty in obtaining the scarce goods due to the lack of control in achieving the goal (Aggarwal et al., 2011; Inman, Peter & Raghurir, 1997; Lynn, 1991; Meyer, 1980). A study by Kristofferson et al. (2016) also found that heuristic scarcity cues influence consumers to perceive other buyers as competitive threats. Similarly, Aggarwal et al., (2011) found that consumers are more likely to feel a sense of competition when the stores sell unique or scarce items. Moreover, the study found that heuristic scarcity cues increase the testosterone in individuals, a hormone associate with aggression (Kristofferson et al., 2016). As such, they are more likely to prepare themselves to act aggressively to obtain the elite products/services. Therefore, the perception of competition is likely to be higher in products with a scarcity cue as compared to products without any scarcity cue. However, it is expected that there will be no significant difference between supply-driven scarcity cue and demand-driven scarcity cue as they both signify limited product availability, outside the control of consumers. As such, the following hypothesis is developed:

H2. Perceived competition is not significantly different in both demand-driven and supply-driven scarcity conditions, but is significantly lower in the control condition.

Stimulus - Organism

As previously discussed, the thought process in the theory of agonistic behaviour is conceptualised as the 'organism' in the S-O-R model. In essence, this is the stage in which organisms process their internal emotional and cognitive states after they are presented with external stimuli. Likewise, in a consumer context, when presented with a scarce product, consumers are more likely to assess the value of the products to identify the worthiness of the purchase. It is then hypothesised that when a product is seen to be scarce and highly sought after, consumers are more likely to perceive the product as more valuable (Verhallen & Robben, 1994).

Perceived Scarcity → Perceived Value

Luxury brands are well-known for their rarity and exclusivity (Burns & Brandy, 2001); this is a distinct characteristic of luxury brands which differentiates them from non-luxury brands. Luxury brands must maintain their relative rarity value by preventing

over-diffusion in the market, which distinguishes luxury brands from non-luxury brands (Burns & Brandy, 2001; Dubois & Paternault, 1995). Scarcity perception has been primarily associated with high quality (Chen & Sun, 2014; We & Hsing, 2006; Wu et al., 2012), exclusiveness (Amaldoss & Jain, 2005; Chen & Sun, 2014; Van Herpen et al., 2009; Park et al., 2008), and attractiveness (Fromkin, 1970; Szybillo, 1975). In line with *the commodity theory*, individuals are more likely to have a greater preference for products which are perceived as scarce in comparison to products which are readily available (Lynn, 1987; Verhallen, 1982). Previous studies have also supported the notion that products in short supply are more likely to be perceived as more valuable (e.g. Brock, 1968; Cialdini, 1987; Eisend, 2008; Lynn, 1991; Sharma & Alter, 2012; Verhallen & Robben, 1994). However, commodity theory does not specify why scarcity enhances product value. Thus, the bandwagon effect and the theory of uniqueness may be applied to explain why scarce products are more appealing than non-scarce products.

Purchasing luxury-branded products is often considered as a high-involvement and high-risk decisions due to the high financial cost (Lin, 2012), causing luxury consumers to spend a lot of time and effort to evaluate their decisions. In line with *the bandwagon effect*, individuals are more likely to choose products which are renowned and well-known in the market in order to reduce purchase risk associated (Leibenstein, 1950; Van Herpen et al., 2009). Other than to reducing purchasing risk, well-known products or brands are also preferred as they indicate social membership and belongingness to relevant social groups (Amaldoss & Jain, 2008; Leibenstein, 1950; Vigneron & Johnson, 1999). For example, Burberry created the Art of the Trench campaign in 2009 that allowed existing consumers to share photos on a website of themselves wearing their Burberry trench coats, giving them their '15 minutes of fame' (Tobias, 2013). This campaign resulted in the increased consumer engagement and e-commerce sales (Tobias, 2013). The success of this campaign showed that luxury value can be reinforced through the behaviour of other consumers and interaction between the various social groups, including brand communities and consumers (Tynan, McKechnie & Chhuon, 2010). Thus, luxury-branded products which are advertised as scarce due to high demand are more likely to be considered as reputable and high quality which, in turn, leads to high perceived value.

Consumer's preference towards scarce products can also be explained by *the theory of uniqueness*, a seemingly opposing theory in comparison to the bandwagon effect. As stated in the theory of uniqueness, individuals want to conform to others but not appear to be identical to them (Brewer, 1991); they may avoid owning identical items as it challenges their personal identity. Individuals have a need to express themselves and to be perceived as being different through the consumption of material possessions and experiences (Snyder & Fromkin, 1977). Supporting this claim, previous studies have found that perceived scarcity is associated with perceived uniqueness (Bian & Forsythe, 2012; Chen & Sun, 2011; Park et al., 2008). The attempt in differentiating oneself from others is evident clearly in the luxury branding context (e.g. Park et al., 2008; Latter et al., 2010; Vigneron & Johnson, 2004). Previous studies have also found that consumers' need for uniqueness influences their intention to purchase luxury brands (e.g. Bian & Forsythe, 2012; Hung et al., 2011). For example, instead of producing more models of their cars, Rolls Royce focuses on offering customisation options to consumers which has been found to be a more profitable approach for the company (Kapferer, 2015). This business model allows Rolls Royce to create unique product offerings whilst fulfilling buyers need for uniqueness. Therefore, luxury-branded products which are advertised as scarce due to low supply are perceived to be exclusive, rare, and, in turn, lead to higher perceived value.

Overall, the bandwagon effect explains consumers' perception of high value towards scarcity due to high demand, whereas the theory of uniqueness explains consumers' perception of high value towards scarcity due to low supply. As such, the following hypothesis is postulated:

H3. Perceived scarcity has a positive influence towards perceived value.

Perceived Competition → Perceived Value

Competitive behaviour is often motivated by the need to achieve and desire to win (Murray 1938). Competition among shoppers gives a thrill or arousal associated with the sense of achievement derived from the competition for scarce products (Bardhi, 2003; Eroglu et al., 2005; Nichols, 2010). Consumers are then likely to perceive the product as valuable as it creates an enjoyable feeling for the winning party and allows them to gain superiority over rivals (Hibbard, 2000; Nichols & Flint, 2013). This claim is also supported by *the commodity theory* which states that an item should have an

initial level of desirability, high level of brand awareness, and be sought after by other consumers to enhance product value (Eisend, 2008; Lynn, 1991).

Competition is also an opportunity to improve some aspect of a consumer's self (Riskind & Wilson, 1982; Helmreich & Spence, 1978). In line with evolutionary psychology, this allows consumers to achieve a superior position or social dominance (Buss, 1995). In a consumption context, individuals can achieve social status by obtaining products which are desirable to other consumers (Veblen, 1899; Nelissen & Meijers, 2011; Nichols, 2010). For example, Saad and Vongas (2009) found that driving a luxury supercar increases testosterone, a hormone that is associated with male dominance displays across species (Dabbs & Dabbs, 2000; Mazur & Booth, 1998). Previous studies have also confirmed the role of luxury brands consumption in providing approval and favourable treatment in human social interaction (e.g. Hudders et al., 2014; Sundie et al., 2011; Nelissen & Meijers, 2011; Wang & Griskevicius, 2014). Consumers are more likely to perceive luxury-branded products as valuable if the products are perceived to be highly desirable and sought after by others, regardless of the heuristic scarcity cues presented. The same hypothesis applies for all product categories (publicly consumed luxury-branded products, privately consumed luxury-branded products, and luxury fine-dining restaurants). As such, the following hypothesis is postulated:

H4. Perceived competition has a positive influence on perceived value.

Organism - Response

According to the theory of agonistic behaviour, there are two possible responses, aggression or submission. As highlighted, aggressive behaviour occurs when animals fight in order to obtain scarce resources. Thus, in a consumer context, this can be measured by purchase intention for elite brands. On the other hand, submissive behaviour occurs when animals choose to avoid the fight and seek alternative resources. Thus, in a consumer context, this can be measured by purchase intention for alternative brands. Therefore, the intention to purchase is a representation of aggressive and submissive behaviour. Buying an elite brand is considered as an act of aggression, while choosing neither bag or buying the alternative brand is seen as an act the submission.

Perceived Value → Purchase Intention

Value is often defined as “what you get for what you pay” (Sirohi et al., 1998, p223) and is often related to the benefit received after deducting the amount of sacrifice needed to obtain the item. Perceived value represents the customer’s assessment of the utility of a product based on perceptions of what is received and what is given (Zeithaml, 1988). If the perceived benefits are more than what the individuals have to pay, then the value is relatively high. As such, individuals are more likely to purchase products that are seen as valuable. Numerous studies have found that high perceived value leads to higher purchase intention (Bakers et al., 2002; Chen & Chang, 2012; Chi, Yeh & Tsai, 2011; Chiang & Jang, 2007; Kalra & Goodstein, 1998; Tarn, 1999) and willingness to pay premium prices (Keller, 1993; Netemeyer et al., 2004). Similarly, in the context of luxury brands, researchers support the view that the value of a product/brand influence both consumer preferences and their willingness to purchase the product/brand (Kalra & Goodstein, 1998; Netemeyer et al., 2004). Vigneron and Johnson (2004) have also observed that consumers who place importance on hedonistic products are more willing to pay a higher price for luxury brands. These results demonstrated that consumers are more likely to purchase the luxury brand if they are perceived to be valuable (Bian & Forsythe, 2012; Hung et al., 2011; Li, Li, & Kambele, 2012; Shukla & Purani, 2012). As such, the following hypothesis is postulated:

H5. Perceived value has a positive influence on purchase intention for the elite brand.

5.4.4.3 Moderation effect

As discussed previously, one major factor influencing the decision for aggressive or submissive behaviour is body size and attributes. Animals with larger body sizes and superior body attributes are more likely to be aggressive and win the fight since they are stronger and have a more significant competitive advantage compared to the smaller one (Schuett 1997; Wise & Jaeger 1998).

Self-Efficacy

In a consumption setting characteristics which determine aggressive behaviour and winning results are likely to be the individuals’ available resources such as financial, knowledge, and time resources. It is expected that consumers who are wealthier and

have the skills and time available are more likely to acquire the elite brands. Self-efficacy is then conceptualised to represent body size and attributes in human behaviour.

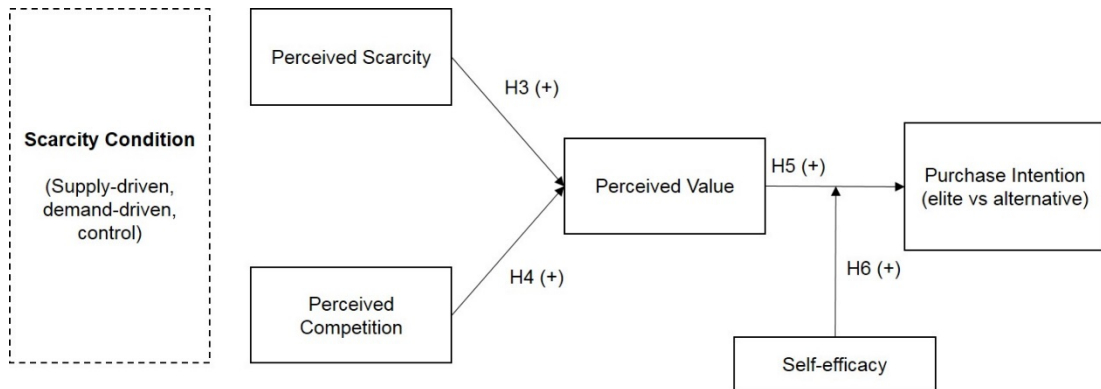
Self-efficacy is a construct in the *social cognitive theory* (Bandura, 1982). Individuals have the tendency to make judgments regarding their capabilities and identify any possible outcomes prior to any decision-making process (Bandura, 1989). The belief in one's capabilities to organise and execute the courses of action required to manage prospective situations is referred to as self-efficacy (Bandura, 1986). The greater perceived self-efficacy, the more likely consumers are to set higher goals, be more persistent in their efforts, and be more committed to achieving them (Bandura, 1988; Locke et al., 1984; Luszczynska & Schwarzer, 2005). On the other hand, when individuals doubt their capabilities, they are more likely to be less persistent and willing to settle for less desirable solutions. Research has demonstrated that perceived self-efficacy is a positive predictor of purchase intention in the context of online media (e.g. Luarn & Lin, 2005; Wang, Lin & Luarn, 2006), health communication (Burgoon et al., 2002), corporate social responsibility (e.g. Ali, Rehman & Yilmaz, 2010; Bray et al., 2011; Öberseder et al., 2011), and fashion (e.g. Jin & Kang, 2011; Phau & Teah, 2009).

Moreover, as previously mentioned, when freedom is restrained and the individuals perceived themselves as capable in re-establishing their freedom, they are more likely to work towards restoring their threatened freedom (Brockner & Elkind, 1985; Wicklund & Brehm, 1968). In this case, since the elite luxury-branded products are scarce (and thus restricted), consumers who have the ability to purchase the scarce products/services are expected to be more motivated to purchase them instead of alternatives. Hence, self-efficacy is proposed to strengthen the relationship between perceived value and purchase intention. As such, the following hypothesis is postulated:

H6. Self-efficacy strengthens the relationship between perceived value and purchase intention of the desired brands in all scarcity conditions.

The hypotheses discussed previously are depicted in the proposed research framework for this study (Figure 5.6).

Figure 5.6: The Proposed Framework Publicly Consumed Luxury-branded Products



The summary of the proposed hypotheses are as follow:

- H1** Perceived scarcity is not significantly different in both demand-driven and supply-driven scarcity condition, but is significantly lower in control condition.
- H2** Perceived competition is not significantly different in both demand-driven and supply-driven scarcity condition, but is significantly lower in control condition.
- H3** Perceived scarcity has a positive influence towards perceived value.
- H4** Perceived competition has a positive influence towards perceived value.
- H5** Perceived value has a positive influence towards purchase intention of the elite brand compared to the alternative brand.
- H6** Self-efficacy strengthens the relationship between perceived value and purchase intention of the elite brands.

5.5 METHODOLOGY

5.5.1 Research Design

As the aim of this research was to examine the influence of different scarcity cues on consumers' perception, an experimental approach was adopted to investigate causal relationships between the independent and dependent variables (Kirk, 2012). Respondents were randomly allocated to different conditions in a 3 (scarcity conditions) between-subjects factorial design. The scarcity conditions included demand-driven scarcity cue, supply-driven scarcity cue, and control conditions.

5.5.2 Sample and Data Collection

This study was conducted on the Australian population, specifically individuals who had purchased luxury-branded products/services. Aided by Australia's economic growth, luxury retailing in Australia experienced strong growth over the review period (Abaño, 2018). The luxury retailing industry grew over the past five years with revenue increasing by 10.2 percent annually, reaching AUD 2.1 billion in 2017-18 (Bain & Company, 2018). Furthermore, limited studies have investigated consumer behaviour in luxury branding context for Australian consumers (e.g. Donvito et al., 2016; Ko et al., 2016), making it an ideal location to conduct the current research.

Since this research focuses on luxury-branded products which requires the opinions of actual luxury consumers, a student sample was not deemed appropriate as the average students would not be able to afford luxury branded products. In addition, students are less likely to have a well-formulated sense of self and attitudes which may produce systematic biases in the results (Sears, 1986; Carlson, 1971). As such, a consumer panel was ultimately preferred (Kapferer & Laurent, 2016).

Data was collected using Qualtrics, an online software with panel data facilities. Qualtrics was chosen because the sample parameters can be specified in order to obtain the most accurate respondent profile; in the case of this study, luxury consumers (Pollard, 2002).

5.5.3 Product Category and Brand Selection

A pre-test was completed to select the most suitable product categories for the study to ensure that the product chosen was indeed consumed in public view. To identify the

ideal product category for public and private products, thirty luxury consumers, 15 females and 15 males, were given a list consisting of 15 fashion product categories (e.g. shoes, watches, perfume, underwear, wallets, etc.) and were asked to assess which categories were consumed publicly (Bearden & Etzel, 1983). Following the procedure by Gierl and Huettl (2010), to measure the type of the product categories, the respondents had to indicate their agreement with the question, “This is a visible product”, on a seven-point scale ranging from 1=totally disagree to 7=totally agree. Participants were also asked to rank those product categories to identify which category they purchased most, in which 1 indicated the most frequently and 15 indicated least the frequently purchased product categories.

The results showed that designer bags and shoes were the two product categories that are publicly consumed and commonly purchased. Since shoes were heavily rated as commonly purchased by the male respondents during the pre-test but not by the female respondents, designer bags were chosen as the public product category (Study One). Supporting this, designer bags represent a high sales percentage in luxury personal goods (Bain & Company, 2017); it is also among the recognisable products of luxury brands given that they contribute significantly to a luxury brand’s image (Solca, 2015). It is also a gender neutral item and serves as an important tool in creating their individual identity (Grotts & Johnson, 2013).

Further, the current study utilised non-fictitious luxury brands (both elite and alternative brands) for ecological validity (Simonson, 1994). However, existing but relatively unknown brands are preferred for this study to avoid any biases due to different brand strengths or levels of brand knowledge (Till & Busler, 2000). To identify the most suitable brands (both elite and alternative brands) for the study, a second preliminary test was conducted. The pre-test asked respondents to state their familiarity with a list of brands (both elite and alternative brands) for each product category (publicly consumed, privately consumed, and experiential service products); brands with the lowest familiarity ratings were selected. To further ensure low familiarity, it was ensured that brands presented to the respondents during the pre-test did not have flagship stores in Australia.

Bottega Veneta was voted by the respondents as the brand with the lowest familiarity level. Bottega Veneta is an established elite luxury brand and has flagship stores in

different countries, encompassing Europe, Asia and America, but not Australia (Bottega Veneta, 2016). Thus, the brand was chosen as the elite brand for the publicly consumed luxury branded products. For the alternative brand, Deux Lux, was voted as the brand with the lowest familiarity. Deux Lux offers bags with similar designs to Bottega Veneta, but at a lower price point. As such, Deux Lux was deemed suitable option for the alternative brand.

5.5.4 Stimulus Development

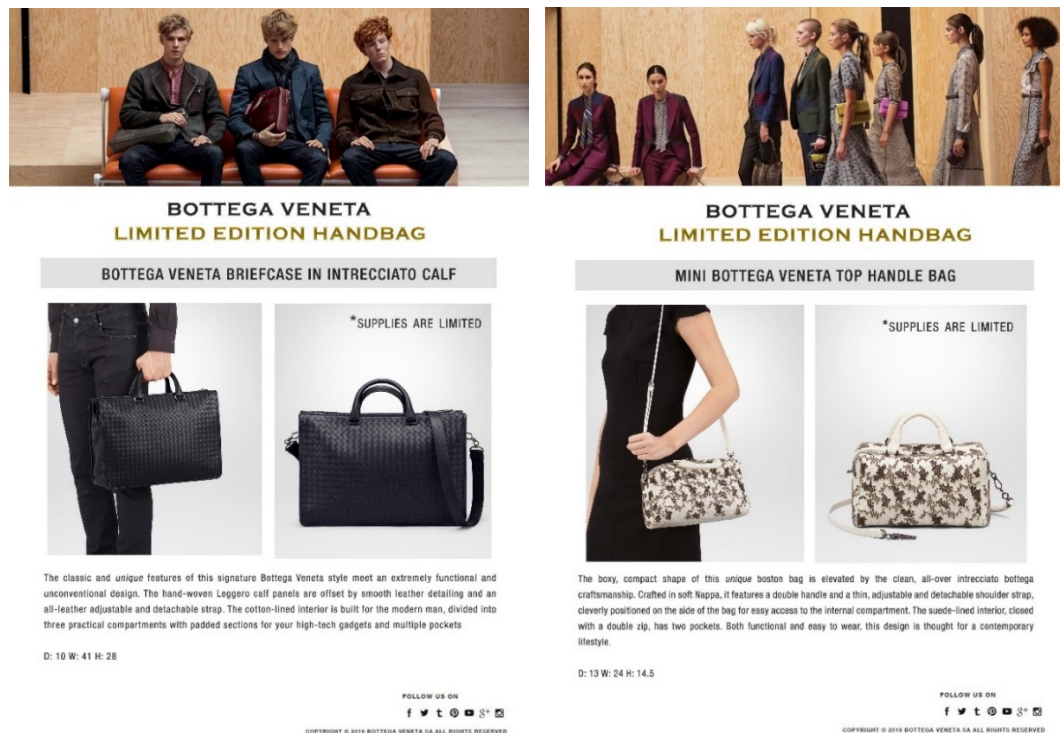
The stimulus design was determined by adapting the process employed by Phau and Cheong (2009) through a series of focus groups with young adults. The information and product images for all stimuli were taken from the official company websites of the relevant brands. The stimuli were carefully designed to create a sense of professionalism and to emulate a real advertisement pamphlet while ensuring that the key content was sufficiently prominent for respondents to fully comprehend the message.

A separate booklet was created for both elite luxury brands and the alternative brand. In addition, a separate booklet for males and females was also created to cater for different product preferences and designer bag style across gender. Differentiating the booklet based on gender is extremely crucial because the product item chosen are gender specific. Hence, gender bias was avoided, and the most accurate response was obtained. A total of 8 versions of a retail pamphlet were produced (3 scarcity conditions with desired brand + 1 mimic brand x 2 genders). To eliminate choice bias due to aesthetic reasons, the product design of both elite and alternative brands is created as similar as possible.

The signal for supply-driven scarcity cue was portrayed with a phrase, “Limited Edition”, as it is the most common marketing strategy in communicating scarcity due to low supply (Gierl et al., 2008). The signal for demand-driven scarcity cue was portrayed with a phrase, “Bestseller”, as it is the most common phrase used in communicating highly sought out products (Wu & Lee, 2016). For the control condition, the phrase “New Arrival” was used to eliminate the perception of scarcity. To further emphasise the scarcity perception to the respondents, additional words and phrases were also added, namely – “highly in demand, almost sold out” and “popular” (demand-driven scarcity) and “supplies are limited” and “unique” (supply-driven

scarcity) (Gierl & Huettl, 2010). Product descriptions were also provided and kept consistent across all conditions. A sample of the stimulus employed in this study is presented in Figure 5.7.

Figure 5.7: Sample Stimulus in Survey Instrument – Bottega Veneta (Limited Edition)



Male Luxury bag

Female Luxury bag

5.5.5 Survey Instrument

A self-administered online questionnaire was used as the survey instrument. Since the data are collected in a standard manner, it is important to confirm that the questions are articulated clearly so the questions are apprehended in the same way by each participant (Saunders et al., 2016). The measurement used in the study are established scales with Cronbach's Alpha higher than 0.8, fulfilling the criteria by Hair et al. (2010). The scales were presented in seven-point Likert scales, in which 1 = strongly disagree to 7 = strongly agree. Purchase intention, however, is a continuum scale in which option 1 represents a strong intention to buy the alternative brand, 4 accounts for neither alternative nor desired brand, and 7 accounts for a strong intention to acquire the elite brand. Some of the items were altered to fit the context of the study.

Additionally, pilot testing was conducted on luxury consumers, prior to finalising the questionnaires in which a column labelled ‘ambiguous question’ next to each item was provided and respondents were allowed to make comment on each question. During the pilot test, the survey completion time was also monitored and kept within 15 to 20 minutes to avoid response fatigue. After the pilot testing, a few revisions were made, such as: (1) grammatical errors and ambiguous questions were corrected and (2) order and flow of the questions were revised to ensure clarity. The pilot testing further confirmed that the chosen brand displayed in the stimuli was rather unfamiliar and exhibited a real luxury brand company pamphlet.

Screening questions were placed to filter out those who (1) are not luxury brand consumers, (2) have unfavourable attitudes towards the luxury brands, and (3) have extensive knowledge about the brand. Respondents were screened out if they selected anything above 4 = “neither agree or disagree”. Screened out participants are immediately directed to the final page and are thanked for participating in the survey. Conversely, respondents that met all the criteria set, were directed to the start of the questionnaire.

The questionnaire comprised of four main sections as follows:

1. A short video was presented in the Section A of the questionnaire to establish the elite brand. These videos were taken from the Bottega Veneta official websites. As identified, although all the elite brands chosen were actual elite luxury brands, the chosen brands were unfamiliar. To ensure the respondents perceive the elite brand as luxurious, additional screening questions were placed to screen out those who do not perceive the chosen luxury brands as luxurious. Questions like “I perceive the X brand to be luxurious”, “I perceive the X brand to be exclusive”, and “I perceive the X brand to be high-class” were posed, using a 7-point Likert scale (1 = “strongly disagree” to 7 = “strongly agree”). Similar to the previous screening questions, Respondents were screened out if they selected anything above 4 = “neither agree or disagree”. Screened out respondents were immediately directed to the final page and thanked for participating in the survey. Conversely, respondents that met all the criteria set, were directed to Section B.

2. The stimuli of Bottega Veneta (elite brand) with heuristic scarcity cue chosen at random was presented in Section B, which followed by 5-item perceived scarcity scale adopted from Byun and Sternquist (2012) and 5-item perceived competition scale taken from Byun and Mann (2011). The section was continued with a 19-item perceived value scale by Sweeney and Soutar (2001) and ended with a 6-item self-efficacy scale by Pedersen (2009).
3. In Section C, the stimuli of Deux Lux (alternative brand) was presented along with a description to introduce the brand as a non-luxurious alternative brand. Similar to Section A, screening questions to control for brand familiarity were placed before presenting the stimulus. Respondents were screened out if they selected anything above 4 = “neither agree or disagree”. The survey was then continued with a 5-item purchase intention scale adopted from Dodds et al. (1991).
4. Respondents’ demographic information, such as gender, age group, marital status, occupation, current home ownership status, education qualification, annual income, and disposable income were measured in Section D.

The survey also included attention checks throughout the questionnaire to ensure data quality. The attention checks included questions such as “If you read this question, please select disagree” or “If you read this question, please do not respond and move to the next question.” These attention checks is useful to identify careless respondents and screen them out before analysis are carried out (Maniaci & Rogge, 2014; Schmitt & Stults, 1985). Data that failed to fulfil these attention checks were removed.

5.6 DATA ANALYSIS

5.6.1 Sample Profiles

A total of 850 data were collected, but 205 data were discarded. Data were removed when the respondent provided straight-line responses, failed the attention checks, or failed the additional screening questions (from the survey instrument Section A and C). Out of 627; 221 respondents for supply-driven scarcity, 211 respondents for control, and 166 respondents for demand-driven scarcity were collected. 464 (74%) respondents are between 35-44 years old, with a majority of female respondent which comprised of male (39%) and female (61%). Most of the subjects were managers (33%), professionals (27%), and sales worker (25%). A breakdown of the respondents' profile for this study is detailed in Table 5.1.

Table 5.1: Respondents Profile

Respondent Characteristic	Percentage			
	Pooled Sample (N=627)	Control condition (N= 211)	Demand-driven condition (N= 166)	Supply-driven condition (N= 250)
Sex				
Male	38.7	39.6	40.5	38.1
Female	61.3	60.4	59.5	61.9
Age				
18 – 21 years	17.2	20.6	15.9	18.8
22 – 34 years	32.7	20.7	38.2	39.5
35 – 44 years	39.3	46.5	35.6	35.1
45 – 54 years	7.4	9.8	6.8	5.2
55 – 70 years	3.4	2.4	3.5	1.4
Education				
Certificate	13.7	21.1	10.6	15.8
Advanced Diploma/ Diploma	18.5	15.2	24.8	15.6
Bachelor Degree	56.9	52.3	58.1	50.9
Graduate Diploma/ Graduate Certificate	4.2	3.2	4.1	5.6
Postgraduate Degree	3.4	4.9	1.1	6.8
Other	3.3	3.3	1.3	5.3
Income (Annual)				
AUD 0 – AUD 40,000	14.1	17.4	12.4	13.7
AUD 40,001 – AUD 80,000	37.7	35.1	41.8	34.6
AUD 80,001 – AUD 120,000	28.2	30.4	25.4	29.3
AUD 120,001 – AUD 160,000	10.1	8.4	13.1	11.2
AUD 160,001 – AUD 200,000	6.8	6.3	5.1	6.6
AUD 200,000 and above	3.1	2.4	2.2	4.6

5.6.2 Control Condition

5.6.2.1 Exploratory Factor Analysis (EFA)

To measure the dimensionality of the relevant factors, an Exploratory Factor Analysis (EFA) was conducted on all the constructs used in the study. The maximum likelihood estimation method was used to analyse the factor loading since AMOS is going to be used for CFA and structural modelling. Since this study used established scales, Oblimin with Kaiser Normalisation rotation method was deemed suitable for EFA (Hair et al., 2010). All loadings for each construct are ensured to be above 0.7 and items were removed if the factor loading was below 0.7 (Hair et al., 2010). Two items for perceived scarcity and three items for perceived value (quality value) were removed due to poor factor loading. The results of the EFA for control conditions are detailed in Table 5.2.

Table 5.2: EFA for Control Condition

Constructs and Items	Factor Loading	Eigenvalue	Cronbach Alpha (α)
Perceived Scarcity		3.237	.884
A is scarce	.931		
There are only limited numbers of A	.894		
A is almost out of stock	.723		
Perceived Competition		2.442	.909
I feel like others will get A if I am not fast enough	.836		
I feel like I am competing with other shoppers for A	.826		
Trying to buy this product is going to be a competition	.795		
I feel competition with other customers	.787		
I am conscious about other customers' behaviour	.742		
Perceived Value (Emotional Value)		3.981	.945
It gives me pleasure	.843		
It makes me feel good	.821		
It is a product that I enjoy	.816		
It makes me want to use it	.812		
It is a product that I will feel relaxed about using	.678		
Perceived Value (Quality Value)		8.922	.833
It is well made	.858		
It has an acceptable standard of quality	.740		
It has consistent quality	.620		
Perceived Value (Social Value)		1.240	.892
It improves the way I am perceived	.898		
It makes a good impression on other people	.835		
It gives its owner social approval	.653		
It helps me to feel acceptable	.533		
Perceived Value (Monetary Value)		2.079	.870
It offers value for money	.866		
It is a good product for the price	.854		
It is reasonably priced	.786		
It would be economical	.591		
Purchase Intention		1.556	.872
I intend to buy A	.823		
I definitely expect to buy A	.810		
I would absolutely consider buying A	.754		
I have a high likelihood of purchasing A	.726		
I definitely expect to buy A	.657		
Self-Efficacy		2.687	.877
I have the skills and knowledge required to purchase A	.864		
I am able to purchase A without the help of others	.779		
I have financial resources required to purchase A	.765		
I have the necessary time to purchase A	.703		
I can afford purchasing A with ease	.696		
I am able to purchase A reasonably well on my own	.573		
KMO SA: .842, Bartlett's Test of Sphericity: .000			

5.6.2.2 Common Method Bias

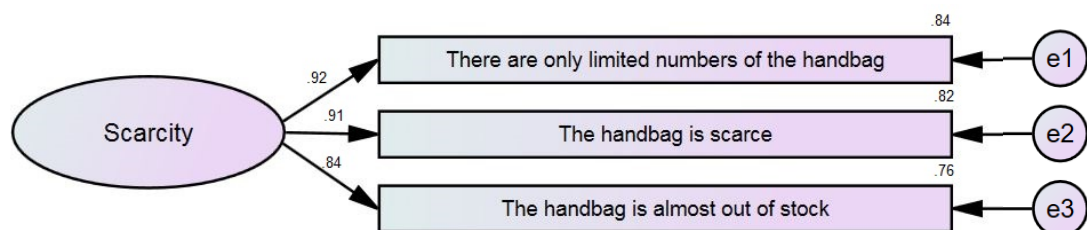
The eight-factor measurement model was then examined for common method bias (CMB) effect (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). It is important to test for CMB effect as it is a measurement error which likely caused by the systematic response bias. CMB effect can either augment or depress a given relationship among variables (Doty & Glick, 1998) and lead to unsound conclusions upon statistical results (Podsakoff et al., 2003; Podsakoff, MacKenzie, & Podsakoff, 2012).

The Harman's single-factor testing was used to control for the CMB influence and verify the outcome of the unrotated solution of the exploratory factor analysis. Harman's single-factor test is the simplest measure and is most widely method used in the literature (Podsakoff et al., 2003). This test showed that the first-factor variance provide a value of 25.5 per cent, which accounts less than 50 per cent of the all variables in the model as recommended in the literature (Baumgartner and Steenkamp, 2001; Craighead et al., 2011; MacKenzie and Podsakoff, 2012). As such, common method bias effect is not present in this study design.

5.6.2.3 One-Factor Congeneric Models

The eight constructs in the research model were then refined through Confirmatory Factor Analysis (CFA) using one-factor congeneric models with AMOS 25. The eight constructs in the research model included: (1) perceived scarcity; (2) perceived competition; (3) perceived value (social value); (4) perceived value (emotional value); (5) perceived value (monetary value); (6) perceived value (quality value); (7) purchase intention; and (8) self-efficacy.

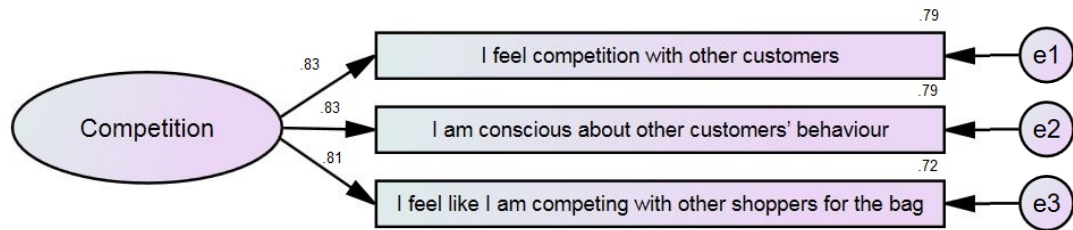
Figure 5.8: Perceived Scarcity – One-factor Congeneric Model



After two items from perceived scarcity were removed during the EFA. As illustrated in Figure 5.8, the three-item model for the perceived scarcity construct had an

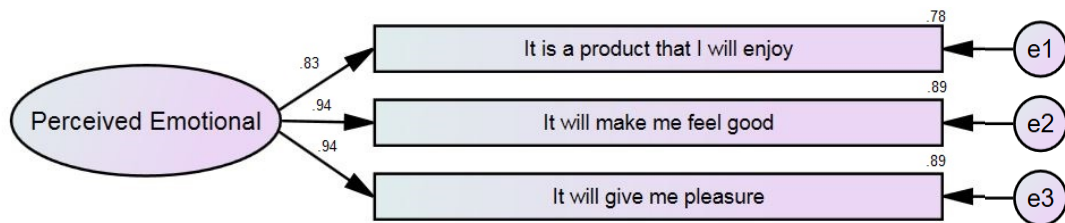
acceptable fit. The goodness-of-fit indices for the three-item model was acceptable [$\chi^2 = 0.459$, $df = 1$, $RMSEA < .001$, $GFI = 0.99$, $CFI = 0.99$, $NFI = 0.99$].

Figure 5.9: Perceived Competition – One-factor Congeneric Model



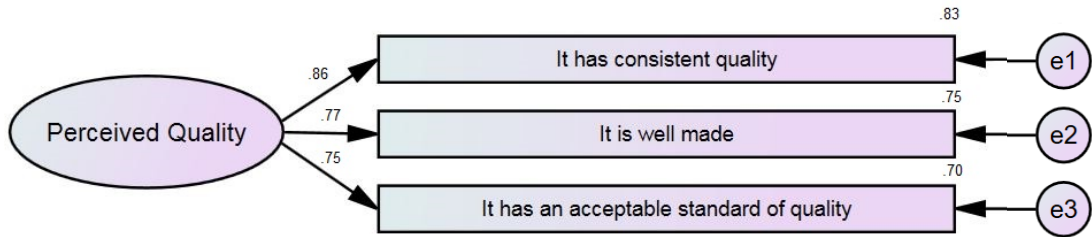
For the perceived competition construct, the five-items was initially deemed an unacceptable fit. Thus, the modification indices were examined for possible outcomes. Reiteratively, two items were deleted, namely “I feel like others will get the bag if I am not fast enough” and “Trying to buy this product is going to be a competition”. As illustrated in Figure 5.9, the subsequent three-item model had good fit [$\chi^2 = 0.091$, $df = 1$, $RMSEA < .001$, $GFI = .99$, $CFI = .99$, $NFI = .99$].

Figure 5.10: Perceived Value (Emotional Value) – One-factor Congeneric Model



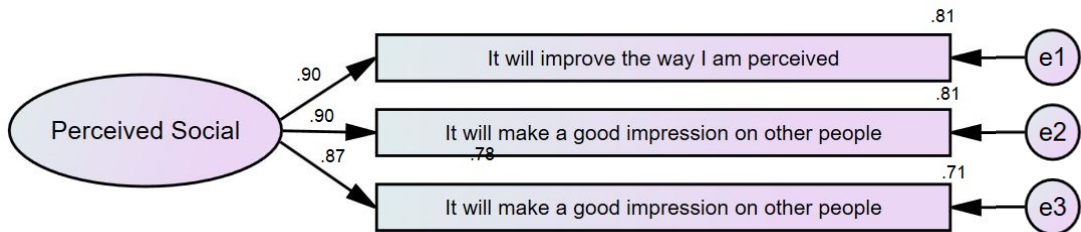
There are four dimensions of perceived value construct which was analysed individually to assess the factor structure. The five-item perceived value (emotional value) dimension had an unacceptable fit. After modifying the model according to the suggested accommodation indices, two-item were deleted, namely “It makes me want to use it” and “It is a product that I will feel relaxed about using”. Subsequently, as illustrated in Figure 5.10, the goodness-of-fit indices for the three-item model was acceptable [$\chi^2 = 0.187$, $df = 1$, $RMSEA < .001$, $GFI = 0.98$, $CFI = 0.99$, $NFI = 0.99$].

Figure 5.11: Perceived Value (Quality Value) – One-factor Congeneric Model



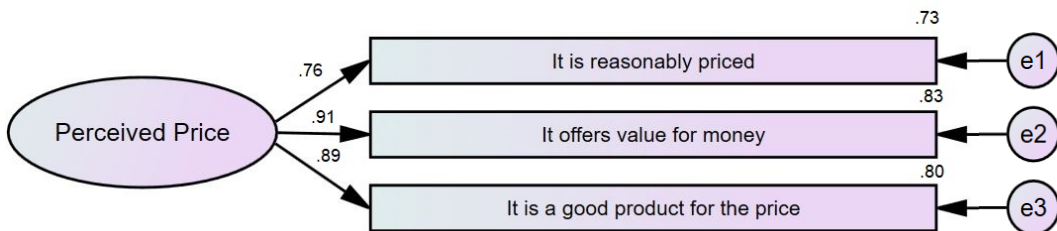
After three poor loading items from perceived value (quality value) were removed during the EFA process. As illustrated in Figure 5.11, the resultant three-item model had good fit [$\chi^2 = 1.750$, $df = 2$, $RMSEA < .001$, $GFI = .98$, $CFI = .99$, $NFI = .99$].

Figure 5.12: Perceived Value (Social Value) – One-factor Congeneric Model



The four-item perceived value (social value) dimension had to be respecified according to the modification indices to achieve model fit. One item was deleted, namely “It helps me to feel acceptable” due to cross loading. Subsequently, as illustrated in Figure 5.12, the goodness-of-fit indices for the three-item model was acceptable [$\chi^2 = .190$, $df = 1$, $RMSEA < .001$, $GFI = .99$, $CFI = .99$, $NFI = .99$].

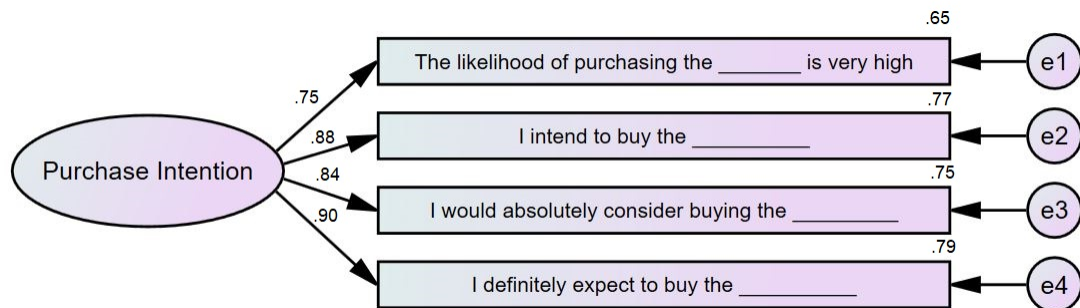
Figure 5.13: Perceived Value (Monetary Value) – One-factor Congeneric Model



The last dimension, perceived value (monetary value), was initially deemed an unacceptable fit. After consulting indices for possible solutions, one item, namely, “It would be economical” was removed iteratively due to cross-loading. As illustrated in

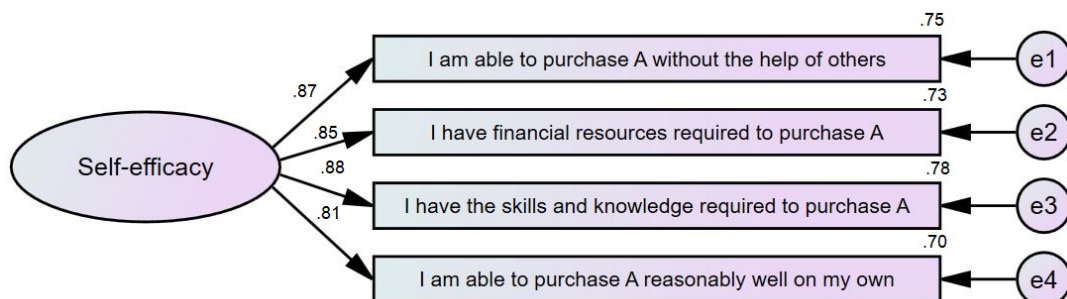
Figure 5.13, the resultant three-item model had good fit [$\chi^2 = 0.741$, $df = 1$, $RMSEA < .001$, $GFI = .99$, $CFI = .99$, $NFI = .99$].

Figure 5.14: Purchase Intention – One-factor Congeneric Model



Initially, the five-item purchase intention was deemed an unacceptable fit, and the modification was examined for possible solutions. As a result, one item, namely “In the near future, I absolutely plan to buy A” was removed due to cross loading. As illustrated in Figure 5.14, the resultant four-item model had good fit [$\chi^2 = .427$, $df = 2$, $RMSEA < .001$, $GFI = .999$, $CFI = .999$, $NFI = .999$].

Figure 5.15: Self-Efficacy – One-factor Congeneric Model



Finally, the six-item model for the self-efficacy construct had an unacceptable fit. After accessing the modification indices for possible outcomes, two items, namely “I have the necessary time to purchase A” and “I can afford purchasing A with ease” were removed. Subsequently, as illustrated in Figure 5.15, the goodness-of-fit indices for the three-item model were acceptable [$\chi^2 = .035$, $df = 1$, $RMSEA < .001$, $GFI = .999$, $CFI = .999$, $NFI = .999$].

A summary of these goodness-of-fit indices of all one-factor congeneric can be seen in Table 5.3.

Table 5.3: One-factor Congeneric – Control Condition

Construct	Parameter Estimates	χ^2	df	RMSEA	GFI	CFI	NFI
Perceived scarcity		.459	1	< .001	.999	.999	.999
There are only limited numbers of A	.918						
A is scarce	.907						
A is almost out of stock	.724						
Perceived competition		.269	1	< .001	.999	.999	.999
I feel like I am competing with other shoppers for A	.879						
I feel competition with other customers	.875						
I am conscious about other customers' behaviour	.745						
Perceived value (emotional value)		.187	1	< .001	.999	.999	.999
It makes me feel good	.944						
It gives me pleasure	.943						
It is a product that I enjoy	.826						
Perceived value (quality value)		1.750	1	< .001	.996	.999	.995
It is well made	.989						
It has an acceptable standard of quality	.804						
It has consistent quality	.658						
Perceived value (social value)		.190	1	< .001	.999	.999	.999
It makes a good impression on other people	.903						
It improves the way I am perceived	.899						
It gives its owner social approval	.779						
Perceived value (monetary value)		.741	1	< .001	.998	.999	.998
It offers value for money	.909						
It is a good product for the price	.892						
It is reasonably priced	.760						
Purchase Intention		.427	2	< .001	.999	.999	.999
I intend to buy A	.877						
I definitely expect to buy A	.785						
The likelihood of purchasing A is very high	.751						
I would absolutely consider buying A	.707						
Self-Efficacy		.035	1	< .001	.999	.999	.999
I have the skills and knowledge required to purchase A	.877						
I am able to purchase A without the help of others	.799						
I have financial resources required to purchase A	.778						
I have the necessary time to purchase A	.738						

5.6.3 Supply-driven Condition

5.6.3.1 Exploratory Factor Analysis (EFA)

Similar to the control condition analysis, an EFA was conducted on all the constructs to ascertain the dimensionality of the relevant factors. Given that established scales were employed in this study, the Oblimin with Kaiser Normalisation rotation method was used in the EFA (Hair et al., 2010). Two items of perceived scarcity and three

items of perceived value (quality) were removed due to poor factor loading. The results of the EFA for control conditions are detailed in Table 5.4.

Table 5.4: EFA for Supply-Driven Condition

Constructs and Items	Factor Loading	Eigenvalue	Cronbach Alpha (α)
Perceived Scarcity		1.663	.878
There are only limited numbers of A	.885		
A is scarce	.819		
A is almost out of stock	.805		
Perceived Competition		2.698	.891
I feel like I am competing with other shoppers for A	.927		
I feel like others will get A if I am not fast enough	.802		
I feel competition with other customers	.751		
Trying to buy this product is going to be a competition	.751		
I am conscious about other customers' behaviour	.647		
Perceived Value (Emotional Value)		8.397	.932
It makes me want to use it	.916		
It is a product that I enjoy	.895		
It is a product that I will feel relaxed about using	.737		
It gives me pleasure	.692		
It makes me feel good	.662		
Perceived Value (Quality Value)		5.054	.911
It is well made	.997		
It has an acceptable standard of quality	.888		
It has consistent quality	.731		
Perceived Value (Social Value)		1.130	.917
It improves the way I am perceived	.898		
It makes a good impression on other people	.835		
It gives its owner social approval	.653		
It helps me to feel acceptable	.533		
Perceived Value (Monetary Value)		2.183	.877
It is a good product for the price	.869		
It offers value for money	.867		
It would be economical	.706		
It is reasonably priced	.702		
Purchase Intention		3.143	.900
In near future, I absolutely plan to buy A	.823		
I intend to buy A	.810		
I would absolutely consider buying A	.754		
The likelihood of purchasing A is very high	.726		
I definitely expect to buy A	.657		
Self-Efficacy		2.395	.887
I am able to purchase A without the help of others	.898		
I have financial resources required to purchase A	.847		
I have the skills and knowledge required to purchase A	.776		
I have the necessary time to purchase A	.668		
I can afford to buy A with ease	.658		
I am able to purchase A reasonably well on my own	.613		
KMO SA: .840, Bartlett's Test of Sphericity: .000			

5.6.3.2 Common Method Bias

The eight-factor measurement model was then examined for common method bias (CMB) effect (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Similar to the control condition, the Harman's single-factor testing was used to control for the CMB influence and verify the outcome of the unrotated solution of the exploratory factor analysis. This test showed that the first-factor variance provide a value of 22.36 per cent, which accounts less than 50 per cent of the all variables in the model as recommended in the literature (Baumgartner and Steenkamp, 2001; Craighead et al., 2011; MacKenzie and Podsakoff, 2012). As such, common method bias effect is not present in this study design.

5.6.3.3 One-Factor Congeneric Models

One-factor congeneric models analysed and refined the psychometric properties of the eight constructs in the research model that included: (1) perceived scarcity; (2) perceived competition; (3) perceived value (social value); (4) perceived value (emotional value); (5) perceived value (monetary value); (6) perceived value (quality value); (7) purchase intention; and (8) self-efficacy.

Initially, some constructs were deemed as unacceptable fit. After modifying the model according to the suggested accommodation indices, all constructs had acceptable goodness-of-fit indices ($\chi^2/df \leq 3.0$, RMSEA $\leq .08$, GFI $\geq .90$, CFI $\geq .90$, NFI $\geq .90$) as suggested by Baumgartner and Homburg (1996). A summary of these goodness-of-fit indices can be seen in Table 5.5.

Table 5.5: One-factor Congeneric – Supply-Driven Condition

Construct	Parameter Estimates	χ^2	df	RMSEA	GFI	CFI	NFI
Perceived scarcity		1.502	1	.048	.995	.999	.996
A is scarce	.860						
There are only limited numbers of A	.851						
A is almost out of stock	.810						
Perceived competition		.280	1	< .001	.998	.999	.999
I feel like I am competing with other shoppers for A	.970						
I feel competition with other customers	.748						
Trying to buy this product is going to be a competition	.723						
I am conscious about other customers' behaviour	.629						
Perceived value (emotional value)		1.706	1	.053	.999	.999	.999
It gives me pleasure	.956						
It makes me feel good	.942						
It is a product that I enjoy	.738						
It is a product that I will feel relaxed about using	.676						
Perceived value (quality value)		4.930	2	.077	.998	.999	.999
It is well made	.924						
It has an acceptable standard of quality	.893						
It has consistent quality	.668						
It performs consistently	.544						
Perceived value (social value)		.987	1	< .001	.999	.999	.999
It makes a good impression on other people	.860						
It improves the way I am perceived	.856						
It gives its owner social approval	.835						
Perceived value (monetary value)		.741	1	< .001	.999	.999	.999
It offers value for money	.909						
It is a good product for the price	.892						
It is reasonably priced	.760						
Purchase Intention		2.953	1	< .001	.993	.995	.992
In near future, I absolutely plan to buy A	.909						
I intend to buy A	.863						
I definitely expect to buy A	.763						
I would absolutely consider buying A	.740						
Self-Efficacy		5.073	4	< .001	.992	.998	.992
I am able to purchase A without the help of others	.906						
I have financial resources required to purchase A	.839						
I have the skills and knowledge required to purchase A	.710						
I have the necessary time to purchase A	.693						
I am able to purchase A reasonably well on my own	.689						

5.6.4 Demand-driven Condition

5.6.4.1 Exploratory Factor Analysis (EFA)

An EFA was conducted on all the constructs to ascertain the dimensionality of the relevant factors. Given that established scales were employed in this study, the Oblimin with Kaiser Normalisation rotation method was used in the EFA (Hair et al. 2010). Three items of perceived value (quality) and one item from Perceived value (Monetary) were removed due to poor factor loading. The results of the EFA for control conditions are detailed in Table 5.6.

Table 5.6: EFA for Demand-Driven Condition

Constructs and Items	Factor Loading	Eigenvalue	Cronbach Alpha (α)
Perceived Scarcity		1.663	.878
A is scarce	.910		
There are only limited numbers of A	.824		
A is almost out of stock	.708		
A is mostly available	.568		
I can get A easily	.500		
Perceived Competition		2.698	.891
I feel like I am competing with other shoppers for A	.953		
I feel competition with other customers	.866		
I feel like others will get A if I am not fast enough	.744		
Trying to buy this product is going to be a competition	.589		
I am conscious about other customers' behaviour	.586		
Perceived Value (Emotional Value)		8.397	.932
It gives me pleasure	.842		
It makes me feel good	.809		
It makes me want to use it	.753		
It is a product that I enjoy	.741		
It is a product that I will feel relaxed about using	.684		
Perceived Value (Quality Value)		5.054	.911
It is well made	.995		
It has an acceptable standard of quality	.733		
It has consistent quality	.672		
Perceived Value (Social Value)		1.130	.917
It improves the way I am perceived	.902		
It gives its owner social approval	.872		
It makes a good impression on other people	.835		
It helps me to feel acceptable	.655		
Perceived Value (Monetary Value)		2.183	.877
It offers value for money	.897		
It is a good product for the price	.780		
It is reasonably priced	.731		
Purchase Intention		3.143	.900
In near future, I absolutely plan to buy A	.833		
I intend to buy A	.798		
I would absolutely consider buying A	.743		
I definitely expect to buy A	.714		
I have a high likelihood of purchasing A	.681		
Self-Efficacy		2.395	.887
I am able to purchase A without the help of others	.834		
I have financial resources required to purchase A	.806		
I have the skills and knowledge required to purchase A	.788		
A	.779		
I have the necessary time to purchase A	.634		
I am able to purchase A reasonably well on my own	.547		
I can afford to buy A with ease			
KMO SA: .840, Bartlett's Test of Sphericity: .000			

5.6.4.2 Common Method Bias

The eight-factor measurement model was then examined for common method bias (CMB) effect (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). The Harman's single-factor testing was used to control for the CMB influence and verify the outcome of the unrotated solution of the exploratory factor analysis. This test showed that the first-factor variance provides a value of 26.87 per cent, which accounts less than 50 per cent of the all variables in the model as recommended in the literature (Baumgartner and Steenkamp, 2001; Craighead et al., 2011; MacKenzie and Podsakoff, 2012). As such, common method bias effect is not present in this study design.

5.6.4.3 One-Factor Congeneric Models

One-factor congeneric models analysed and refined the psychometric properties of the eight constructs in the research model that included: (1) perceived scarcity; (2) perceived competition; (3) perceived value (social value); (4) perceived value (emotional value); (5) perceived value (monetary value); (6) perceived value (quality value); (7) purchase intention; and (8) self-efficacy.

Initially, all constructs were deemed as unacceptable fit. After modifying the model according to the suggested accommodation indices, all constructs had acceptable goodness-of-fit indices ($\chi^2/df \leq 3.0$, RMSEA $\leq .08$, GFI $\geq .90$, CFI $\geq .90$, NFI $\geq .90$) as suggested by Baumgartner and Homburg (1996). A summary of these goodness-of-fit indices can be seen in Table 5.7.

Table 5.7: One-factor Congeneric – Demand-Driven Condition

Construct	Parameter Estimates	χ^2	df	RMSEA	GFI	CFI	NFI
Perceived scarcity		.780	1	< .001	.997	.999	.997
A is scarce	.901						
There are only limited numbers of A	.896						
A is almost out of stock	.727						
Perceived competition		.062	1	< .001	.999	.999	.999
I feel like I am competing with other shoppers for A	.981						
I feel competition with other customers	.838						
I feel like others will get A if I am not fast enough	.785						
I am conscious about other customers' behaviour	.766						
Perceived value (emotional value)		.533	1	< .001	.998	.999	.999
It makes me feel good	.971						
It gives me pleasure	.968						
It is a product that I enjoy	.774						
Perceived value (quality value)		.872	1	< .001	.999	.999	.999
It is well made	.975						
It has consistent quality	.748						
It has an acceptable standard of quality	.735						
Perceived value (social value)		1.235	1	< .001	.996	.999	.998
It improves the way I am perceived	.964						
It makes a good impression on other people	.899						
It helps me to feel acceptable	.827						
It gives its owner social approval	.823						
Perceived value (monetary value)		.023	1	< .001	.999	.999	.999
It offers value for money	.948						
It is a good product for the price	.821						
It would be economical	.746						
It is reasonably priced	.717						
Purchase intention		4.210	4	.018	.990	.999	.989
In near future, I absolutely plan to buy	.802						
I intend to buy _____	.789						
I would absolutely consider buying	.774						
I definitely expect to buy _____	.722						
The likelihood of purchasing _____ is very high	.719						
Self-Efficacy		.702	1	< .001	.997	.999	.997
I am able to purchase A without the help of others	.855						
I have financial resources required to purchase A	.807						
I have the skills and knowledge required to purchase A	.752						

5.6.5 Measurement Model

The maximum likelihood estimation method was used to analyse the factor loading across the three different scarcity cue conditions (supply-driven, demand-driven, and control).

5.6.5.1 Perceived Value

The different dimensions of perceived value (emotional, social, quality, and monetary) are transformed into composite variables to minimise the number of items calculated for full measurement model and path analysis. Prior to creating a composite variable and analysing path analysis using grouping variable (scarcity condition), configural and metric invariance must be tested to ensure that the factor structure and loadings are sufficiently equivalent across groups (Steenkamp & Baumgartner, 1998; Ariely & Davidov, 2012).

To test configural invariance, a measurement model for the perceived value of all three scarcity conditions was tested together and freely estimated to ensure it achieves fit (Horn & Mcardle, 1992; Vandenberg & Lance, 2000). Using only the items remaining after the one-factor congeneric analysis, an analysis was run to test model fit between the three conditions. Initially, the model was deemed unfit, and the modification indices were examined for possible solutions. A model fit was finally achieved after necessary changes were made. A summary of the factor loading for each construct and group along with the goodness-of-fit indices is available in Table 5.8.

Table 5.8: Measurement Model – Perceived Value for All Groups

Construct	Parameter Estimates		
	Control	Supply	Demand
Perceived value (emotional value)			
It is a product that I enjoy	.824	.873	.873
It makes me feel good	.950	.940	.974
It gives me pleasure	.787	.958	.965
Perceived value (quality value)			
It has consistent quality	.904	.907	.979
It is well made	.720	.795	.845
Perceived value (social value)			
It improves the way I am perceived	.910	.858	.907
It makes a good impression on other people	.886	.861	.960
Perceived value (monetary value)			
It is reasonably priced	.838	.770	.820
It offers value for money	.803	.750	.852
$\chi^2 = 97.383$ df = 87 RMSEA = .022 GFI = .970 CFI = .997 NFI = .931			

The next step was to test for metrics invariance to ensure the factor loadings for each item between groups are not significantly different. As suggested by Kline (2005), the factor loading of each item is constrained to its underlying construct; then the model is compared with the baseline model without loading constraints (Zhan & He, 2012). The three models were not significantly different ($\Delta\chi^2 = 21.354$, $df = 20$, $p = .377$), indicating that there is no factor loading invariance across the three conditions.

Since the measurement model showed perceived value passed configural and metric invariance, the items for each dimension of perceived value were aggregated, resulting in a four-item scale in which each item represents one perceived value dimension.

5.6.5.2 Full Measurement Model

A full measurement model was tested to ensure the model fit for all factors. Since the measurement model does not revealed a good fit, measurement re-specification was performed (Hair et al., 1988). After re-specification, overall goodness-of-fit indices were satisfactory [$\chi^2 = 269.188$, $df = 240$, $p = .095$, $RMSEA = .014$, $RMR = .101$, $AGFI = .918$, $CFI = .993$]. The model fit indices for all the groups are presented in Table 5.9.

Table 5.9: Measurement Model – All Constructs for All Groups

Construct	Parameter Estimates		
	Control	Supply	Demand
Perceived scarcity			
There are only limited numbers of A	.926	.926	.909
A is scarce	.900	.773	.888
Perceived competition			
I feel competition with other customers	.814	.858	.924
I am conscious about other customers' behaviour	.820	.729	.746
I feel like I am competing with other shoppers for the underwear	.835	.841	.890
Perceived value			
Social value	.780	.828	.789
Emotional value	.796	.710	.855
Quality value	.846	.752	.709
Monetary value	.704	.697	.673
Purchase Intention			
I intend to buy A	.855	.789	.784
I would absolutely consider buying A	.713	.742	.829
I definitely expect to buy A	.704	.812	.781
Self-efficacy			
I am able to purchase A without the help of others	.763	.794	.778
I have the skills and knowledge required to purchase A	.757	.790	.784
I have the financial resources required to purchase A	.832	.823	.867
$\chi^2 = 269.188$ df = 240 RMSEA = .014 GFI = .945 CFI = .993 NFI = .943			

5.6.5.3 Gender Stimulus

As discussed in the methodology section, the product stimulus for both males and females were differentiated to capture both perspectives and remove gender biases. Hence, after the full measurement model has been conducted, the model was tested for mean differences in terms of genders. It is crucial to ensure there is no significant difference in the results across gender in order to confirm the effectiveness of the stimulus. Following the procedure above to test configural and metric invariance, three measurement models (supply-driven, demand-driven, and control) with two gender groups (male and female) were measured. All three models indicated there were no significant differences across gender [supply-driven: $\Delta\chi^2 = 25.375$, $df = 57$, $p = .276$; demand-driven: $\Delta\chi^2 = 19.798$, $df = 57$, $p = .238$; control: $\Delta\chi^2 = 28.184$, $df = 57$, $p = .290$], which concluded the effectiveness of the stimulus across genders.

5.6.5.4 Validity and Reliability

The analysis calculated convergent validity and reliability of the measurement model through average variance extracted (AVE) and composite reliability (CR) (Fornell & Larcker, 1981). After analysis, all the composite reliabilities were higher than 0.70, which indicated an acceptable level of reliability (Hair et al., 2010). The AVE of each measure also indicated acceptable internal validity as all measures were larger than 0.5 (Hair et al., 2010). AVE is a preferred indicator of convergent validity. Malhotra and Dash (2011, p 702) stated that "AVE is a more conservative measure than CR. On the basis of CR alone, the researcher may conclude that the convergent validity of the construct is adequate, even though more than 50% of the variance is due to an error."

To measure discriminant validity, Fornell and Larcker (1981) suggested comparing the AVE value with the squared inter-construct correlation estimates. However, for variance-based SEM, Hair et al. (2010) suggested discriminant validity be measured by comparing the square root of AVE with the inter-construct correlation estimates to take into account its sensitivity to overestimate item loading (Hui & Wold, 1982; Lohmöller, 1989). If the square root of AVEs being higher than any inter-construct correlations, each construct has more error-free variance than variance shared with other constructs, which in turn suggests discriminant validity. After analysis, all AVEs were greater than SIC, demonstrating acceptable discriminant validity between constructs. It signifies that there is no threat from multicollinearity among the constructs. Table 5.10 showed the measurement model – Reliability, Convergent Validity, and Discriminant Validity of all three scarcity conditions.

Table 5.10: Measurement Results – Reliability, Convergent Validity and Discriminant Validity

	CR	AVE	MSV	MAXR (H)	VALUE	SCARCITY	COMP	PURCHASE	SELF_EFF
VALUE	0.841	0.572	0.212	0.851	0.756				
SCARCITY	0.777	0.637	0.024	0.910	0.073	0.798			
COMP	0.852	0.658	0.212	0.943	0.460	0.059	0.811		
PURCHASE	0.759	0.514	0.058	0.952	0.178	0.001	0.165	0.717	
SELF_EFF	0.858	0.673	0.058	0.970	-0.027	-0.154	-0.012	0.240	0.820

Square root of AVE
 Inter-construct Correlation

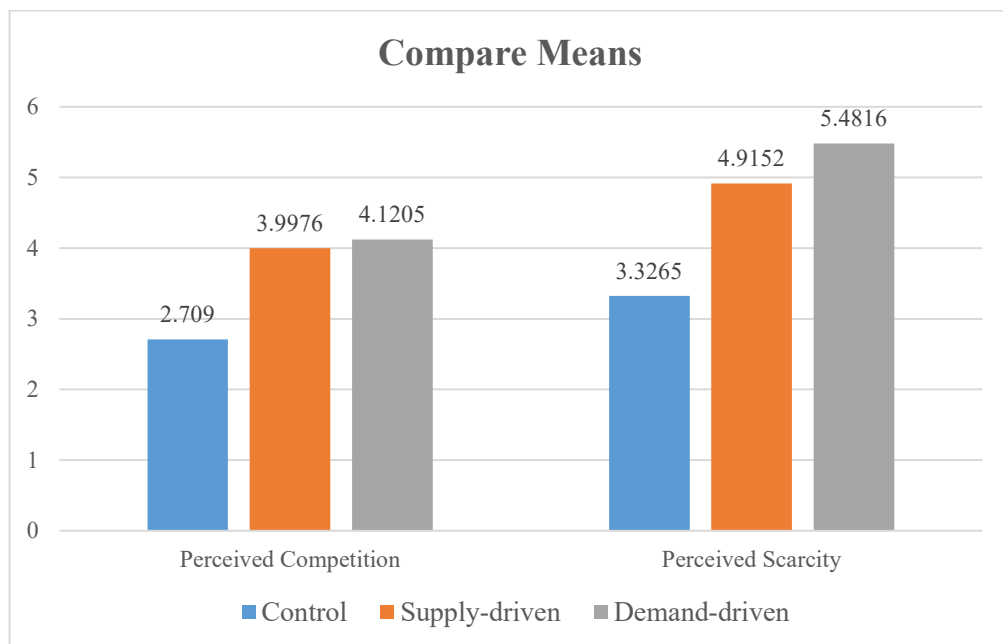
5.6.6 Hypothesis Testing

5.6.6.1 Hypothesis Testing – H1 and H2

Hypotheses H1 and H2 are aimed at addressing RQ2 – to determine the strength of the effect of the various scarcity types (demand-driven, supply-driven and control condition) on perceived scarcity and perceived competition.

To test hypotheses H1 and H2, a one-way between-subjects ANOVA was conducted to measure the significant difference of perceived scarcity and perceived competition in high demand, low supply, and no scarcity cue conditions. A composite variable was created from the remaining items of perceived scarcity and perceived competition after CFA reduction. The composite variables were calculated through SPSS by taking into account that each item has different factor loading. Figure 5.15 showed the results.

Figure 5.16: Compare Means – Perceived Scarcity and Perceived Competition



H1. *Perceived scarcity is not significantly different in both demand-driven and supply-driven scarcity condition but is significantly lower in the control condition.*

The results revealed that there was a significant effect of the different scarcity cue on perceived scarcity at the $p < 0.05$ level for the three conditions [$F(2,624) = 154.813, p < .001$]. Post Hoc comparisons using the Bonferroni test indicated that the mean score

for no scarcity cue conditions ($M = 3.34$, $SD = 1.4$) was significantly lower than the high-demand scarcity cue and low-supply scarcity cue. However, the high-demand scarcity cue ($M = 5.49$, $SD = 1.19$) was significantly higher than the low-supply scarcity cue ($M = 4.91$, $SD = 1.17$). Therefore, H1 is partially supported.

H2. *Perceived competition is not significantly different in both demand-driven and supply-driven scarcity condition but is significantly lower in the control condition.*

The results revealed that there was a significant effect of the different scarcity cue on the perceived competition at the $p < 0.05$ level for the three conditions [$F(2,624) = 53.731$, $p < .001$]. Post Hoc comparisons using the Bonferroni test indicated that the mean score for the no scarcity cue condition ($M = 2.7$, $SD = 1.4$) was significantly different than the high-demand scarcity cue ($M = 4.12$, $SD = 1.61$) and low-supply scarcity cue ($M = 3.99$, $SD = 1.58$). However, high demand scarcity cue condition did not significantly differ from the low-supply scarcity cue. Thus, H2 is supported. The results of the hypothesis testing of H1 and H2 for all scarcity groups are summarised in Table 5.11.

Table 5.11: H1 and H2 – Standardised Path Coefficients

Hypothesis	Cond	Cond	Mean Difference	Sig.	Supported/ Not Supported
H1. Perceived scarcity is not significantly different in both demand-driven and supply-driven scarcity conditions, but is significantly lower in the control condition.	Control	Limited Edition	-1.579	< .001	Partially Supported
	Control	Nearly Sold Out	-2.155	< .001	
	Limited Edition	Nearly Sold Out	-0.576	< .001	
H2. Perceived competition is not significantly different in both demand-driven and supply-driven scarcity conditions, but is significantly lower in the control condition.	Control	Limited Edition	-1.288	< .001	Supported
	Control	Nearly Sold Out	-1.411	< .001	
	Limited Edition	Nearly Sold Out	-0.123	1.000	

5.6.6.2 Hypothesis Testing – H3 to H6

Hypotheses H3 to H5 are aimed at addressing RO1 – to develop a conceptual framework of the theory of agonistic behaviour to understand consumer behaviour towards scarcity cues and addressing RO3 – to evaluate consumers' perceived competition and scarcity towards various scarcity types and how it influences perceived value and purchase intention within luxury brands context.

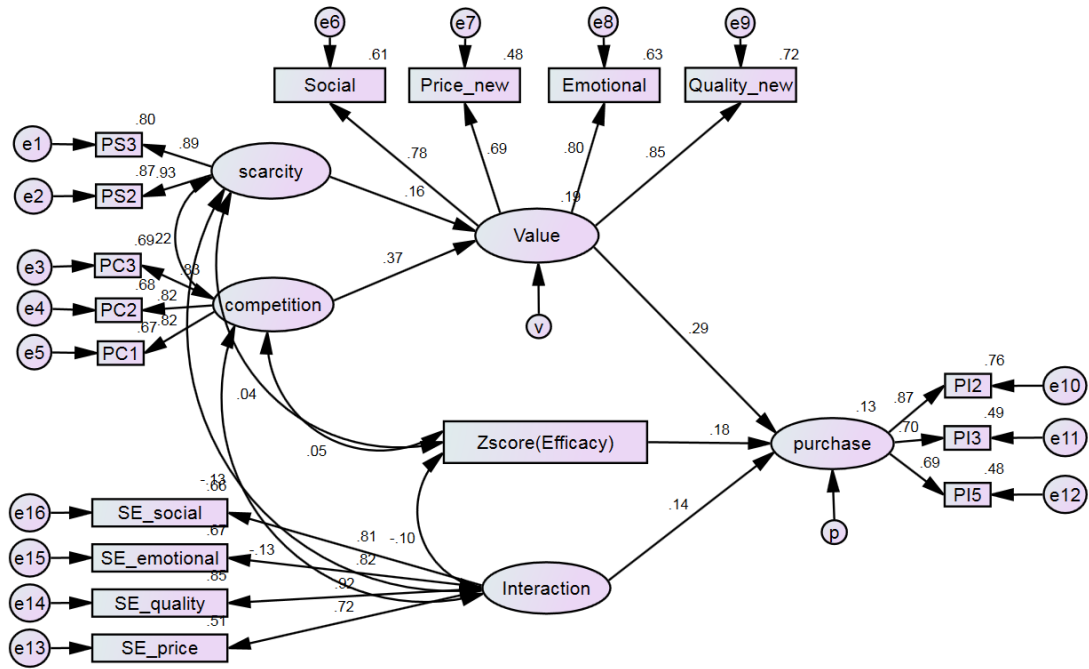
Hypotheses H6 was aimed at addressing RO4 – to examine the role of self-efficacy in moderating the relationship between perceived value and purchase intention. Prior to creating the interaction term, the variables involved were mean-centred to minimise the possible problem of multicollinearity (Aiken & West, 1991; Balaji et al., 2016). The correlation between all independent variables was also freely estimated because they were assumed to be related in this study.

To test hypotheses H3 to H6, a structural model was analysed in AMOS 25. This study adopted the procedure by Jap and Anderson (2003).

Step One - Single-group Estimation

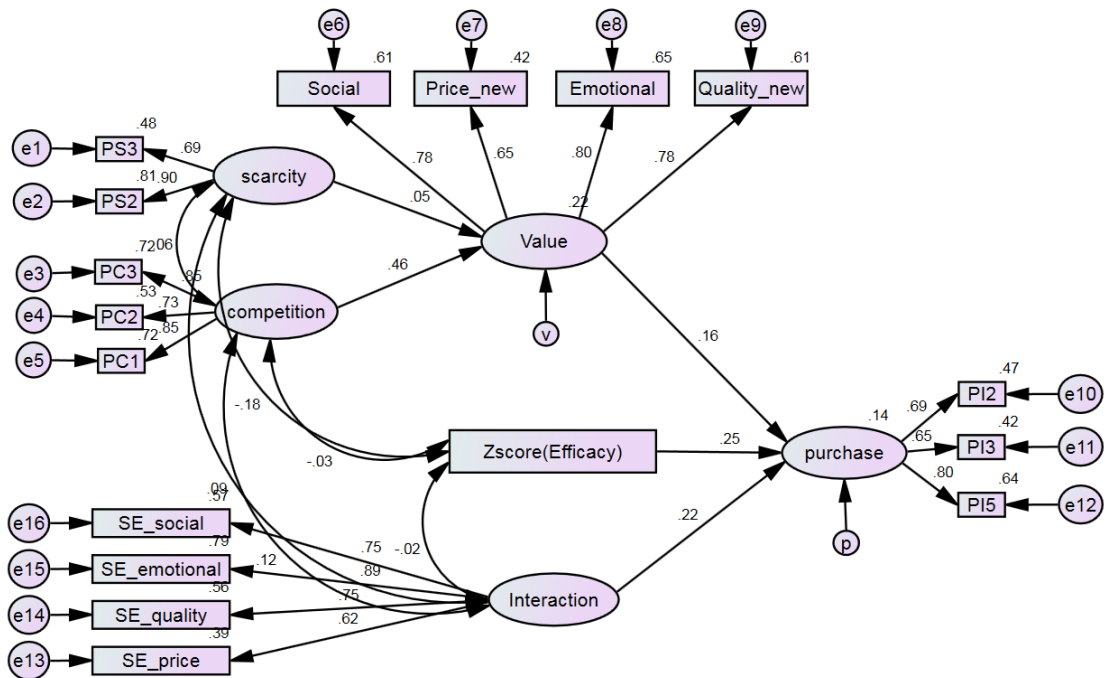
The first step is to run the single group models for the three scarcity conditions (demand-driven, supply-driven, control) separately to evaluate the extent to which the model was able to account for covariance matrix (Jap & Anderson, 2012). Correlations between the independent variables were freely estimated because they were assumed to be related in this study (Zhan & He, 2012). For the control condition, the model had a Chi-square of 162.993 (df = 109, p = .091), with a CFI of .991 and TLI of .988. The RMSEA was .031. For the supply-driven condition, the model had a Chi-square of 195.739 (df = 109, p = .054), with a CFI of .983 and TLI of .978. The RMSEA was .038. For the demand-driven condition, the model had a Chi-square of 112.708 (df = 109, p = .385) with a CFI of .997 and TLI of .996. The RMSEA was .014. Taken together, these results suggested that the structural model accounted well for the covariance structure in both groups. The model fit indices for the control condition are presented in figure 5.17; the supply-driven condition is presented in figure 5.18; with the demand-driven condition are presented in figure 5.19.

Figure 5.17: Structural Model Results – Control Condition



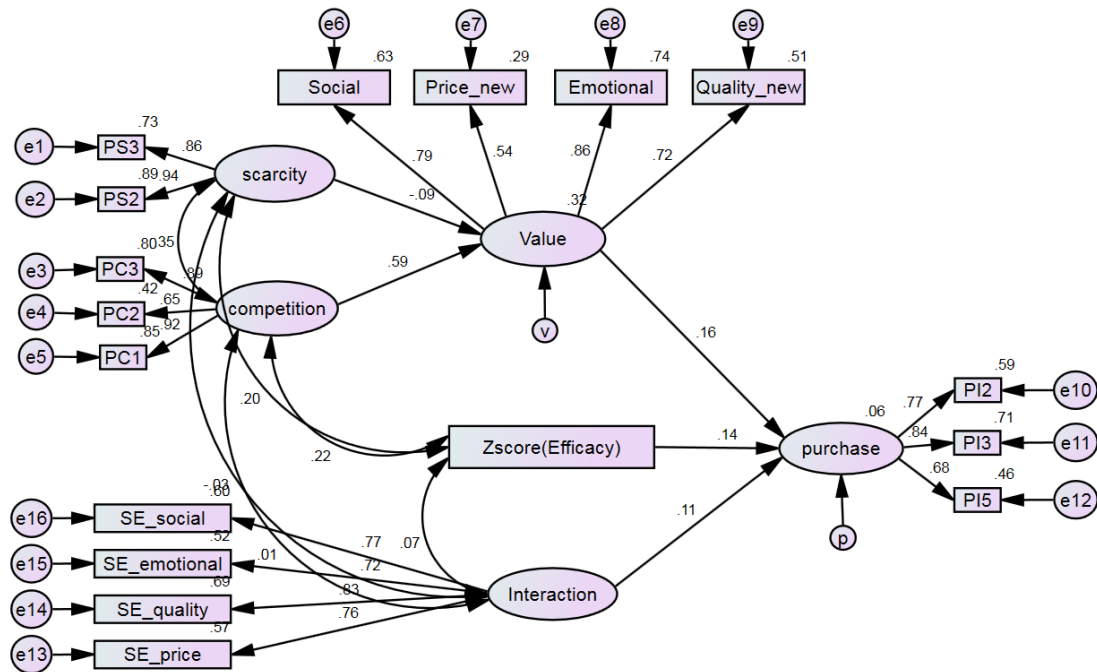
Chi Square = 162.993 d.f = 109 p = .091 RMSEA = .031 CFI = .991

Figure 5.18: Structural Model Results – Supply-Driven Condition



Chi Square = 195.739 d.f = 109 p = .054 RMSEA = .038 CFI = .983

Figure 5.19: Structural Model Results – Demand-Driven Condition

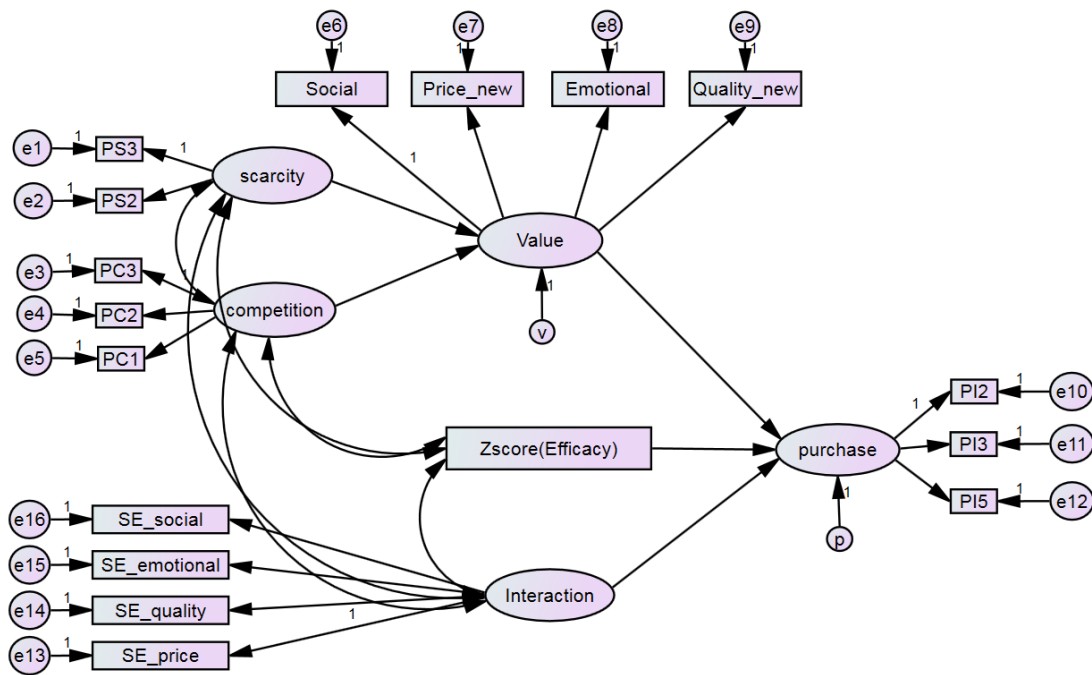


Chi Square = 112.708 d.f = 109 p = .385 RMSEA = .014 CFI = .997

Step Two - Two-Group Estimation

In the second step, the three scarcity condition models were estimated together in the two-group estimation model. The first model simultaneously estimated the three scarcity groups as the baseline model, in which all parameters were freely estimated across the groups. This model had a Chi-square of 164.997 (df = 153, p = .240), with a CFI of .996 and a TLI of .995. The RMSEA was .011. Thus, the three-group model provided a satisfactory fit for the data. The model fit indices for all group presented in figure 5.20.

Figure 5.20: Structural Model Results – All groups



Chi Square = 164.997 d.f = 153 p = .240 RMSEA = .011 CFI = .996

The second model constrained all the gamma coefficients to be equal across the groups. The constrained model is then compared with the baseline model in which the chi-squares difference—the likelihood ratio (LR)—identify the null hypothesis that the parameters were equivalent. No potential interaction effects if the equivalence of parameters indicates no differences across the groups. Since this study has three different groups, three analyses were done in which two groups were tested for each analysis. The analysis revealed that the gamma coefficients were not significantly different in all testing. The result showed control and demand-driven condition (LR = 6.782; df = 3; $p \geq 0.05$), control and supply-driven condition (LR = 4.186.; df = 3; $p \geq 0.05$) and supply-driven and demand-driven scarcity condition (LR = 2.822; df = 5; $p \geq 0.05$). Thus, the analysis did not proceed to the next step.

Since there was no interaction effect between all the three scarcity conditions, the parameters should be constrained to be equal across groups (Jap & Anderson, 2003). This revised model was used to test hypotheses H3 to H6.

H3. *Perceived scarcity has a positive influence on perceived value.*

The results showed that perceived scarcity has no significant influence on perceived value in both demand-driven ($\beta = -.094, p \geq .05$) and supply-driven scarcity condition ($\beta = .043, p \geq .05$), but showed positive and significant influence in the control condition ($\beta = .162, p \leq .05$). Therefore H3 is partially supporting.

H4. *Perceived competition has a positive influence on perceived value.*

The results also showed that perceived competition has a positive and significant influence in all scarcity conditions (Demand-driven: $\beta = .590, p \leq .001$; Supply-driven: $\beta = .459, p \leq .001$; Control: $\beta = .371, p \leq .001$), supporting H4.

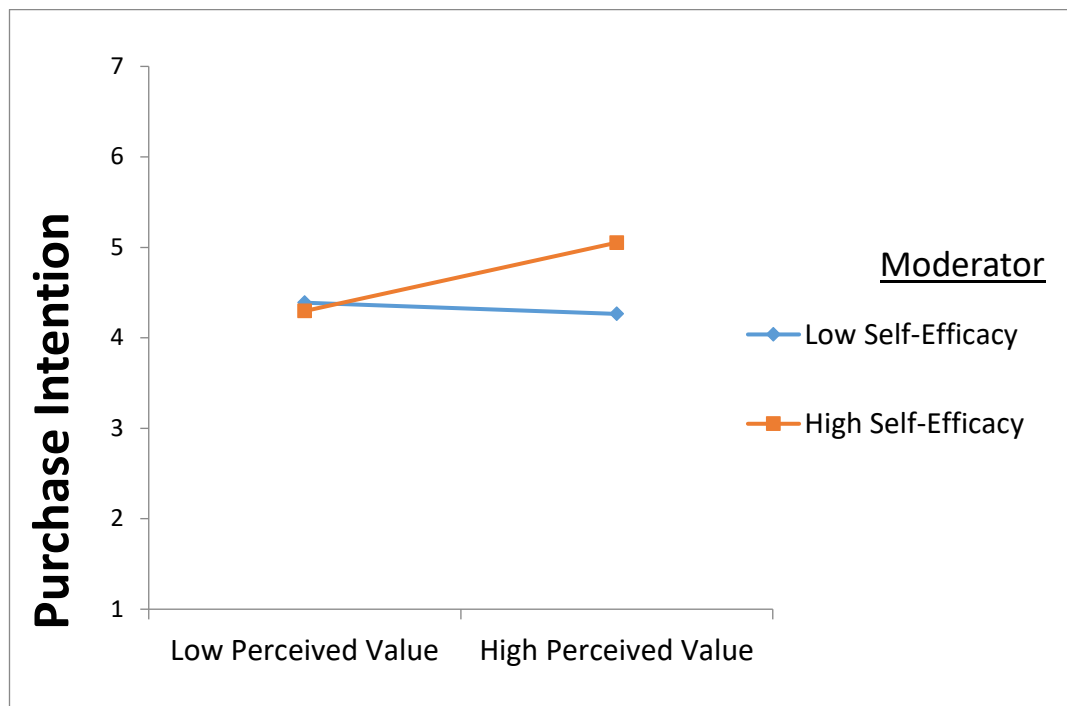
H5. *Perceived value has a positive influence on purchase intention for the elite brand.*

H5 is also supported as the analysis showed that perceived value has a positive and significant influence in all scarcity conditions (Demand-driven: $\beta = .102, p \leq .05$; Supply-driven: $\beta = .091, p \leq .05$; Control: $\beta = .219, p \leq .001$).

H6. *Self-efficacy strengthens the relationship between perceived value and purchase intention for the elite brand.*

The results showed that self-efficacy strengthened the relationship between perceived value and purchase intention of the desired brands only in supply-driven scarcity condition (interaction term $\beta = .220, p \leq .05$). There was no moderating effect of perceived value and self-efficacy on purchase intention in control (interaction term $\beta = .161, p \geq .05$) and demand-driven scarcity condition (interaction term $\beta = .119, p \geq .05$). Therefore, H6 is partially supported.

Figure 5.21: Moderating Role of Self-efficacy on Purchase Intention – Supply-Driven Condition



As presented in figure 5.21, the slope of high self-efficacy is steeper than low perceived value. In other words, the positive relationship between perceived value and purchase intention is stronger for those who have higher self-efficacy. Therefore, H6 is partially supported.

The results of the hypothesis testing H3 to H6 for all scarcity groups are summarised in Table 5.12.

Table 5.12: H3 to H6 – Standardised Path Coefficients

Hypothesis Structural Path	Supply-Driven		Control		Demand-Driven		Supported /Not Supported
	Standardised coefficient	SE	Standardised coefficient	SE	Standardised coefficient	SE	
H3. Perceived scarcity → Perceived value	.043	.078	.162***	.057	-.094	.093	Partially supported
H4. Perceived competition → Perceived value	.459***	.058	.373***	.080	.590***	.072	Supported
H5. Perceived value → Purchase intention	.184***	.039	.310***	.057	.184***	.052	Supported
H6: Self-efficacy strengthens the relationship between perceived value and purchase intention for the elite brand.							
Perceived value → Purchase intention	.158***	.074	.359***	.103	.290***	.155	Partially supported
Self-efficacy → Purchase intention	.220***	.046	.174***	.068	-.106	.219	
Interaction → Purchase intention	.174***	.074	.161	.090	.119	.091	

5.7 DISCUSSION

H1 investigated the relative effects of various scarcity cue conditions (supply-driven, demand-driven, and control) to perceived scarcity. It was proposed that scarcity perception is not significantly different in supply- and demand-driven scarcity cue conditions but is significantly lower in control condition. The hypothesis was partially supported. The result showed that demand- and supply-driven scarcity cues elicited higher perceived scarcity compared to the control condition. However, demand-driven scarcity cues elicited greater scarcity than supply-driven scarcity cues, which are often assumed to have the same effect strength in the previous literature (e.g. Aggarwal et al., 2011; Gierl et al., 2008; Worchel et al., 1975). In other words, when products are said to be “nearly sold out”, consumers are more likely to perceive it as scarce as compared to the products which are said to be “limited edition”.

This result may be explained due to consumers’ suspicious thinking of persuasive marketing claims (Obermiller & Spangenberg, 1998; Wei, Fischer & Main, 2008; Yeo & Park, 2009). Since the production of limited edition products is controlled and managed by luxury-branded companies, consumers may perceive that the luxury brand companies will produce a large number of limited edition items to make a profit. For instance, when Rolls Royce launched their new Wraith Black Badge, 15% (150 cars) of the 1000 Rolls Royce Wraiths produced, were the limited edition (Elliott, 2017), which is considered to be relatively abundant for a limited edition. In contrast, for demand-driven scarcity, scarcity is outside of the control for both the luxury brand and consumers. Thus, consumers are more likely perceive the scarcity as more authentic and are likely to be prompted to purchase the product. Further, the use of “limited edition” is sometimes perceived to be anything but limited. Based on a survey on food and beverage products by The Harris Poll (2015) in America, nearly two-thirds (64%) of the respondents claim that the term “limited edition” is overused. In the luxury branding context, some luxury brands overproduce and/or excessively offer its limited edition collection which dilutes its brand image. In the spring/summer 2003, Louis Vuitton offered limited edition Multicolour Speedy 30 handbag which resulted in an endless waiting list. However, Louis Vuitton then announced that the Multicolour line would become a part of the classic production, instead of limited edition. Although the Multicolour line was discontinued in 2015, some consumers were displeased. As a result, although limited edition bags are produced significantly less than non-limited

edition bags, their scarcity may be perceived as less threatening or more artificial than the bags promoted with demand-driven scarcity cues.

H2 examined the relative effects of various scarcity cue conditions (supply-driven, demand-driven, and control) to perceived competition. It was proposed that perceived competition is not significantly different to products with scarcity cues but significantly higher to products with no scarcity cues. The hypothesis was supported. Supporting the findings of existing research in the area, limited availability due to high demand and restricted supply garner more favourable consumer preferences, which in turn, leads to high perceived competition (e.g. Cialdini, 2009; Verhallen & Robben, 1994).

H3 examined the influence of perceived scarcity towards perceived value. It was hypothesised that perceived scarcity has a positive influence on perceived value. Interestingly, this hypothesis was only partially supported. Perceived scarcity only has a positive influence on perceived value when there is no scarcity cue attached to the product. However, for both demand-driven and supply-driven scarcity cues, there is no significant relationship between perceived scarcity and perceived value. On the other hand, **H4** identify the influence of perceived competition towards perceived value. It was hypothesised that perceived competition has a positive influence on perceived value. The results showed that the hypothesis was supported. Based on the **H3** and **H4** findings, it showed that perceived competition is a better influencer to perceived value as compared to perceived scarcity. This is a fascinating result as previous research often found correlations between scarcity effect to product valuation (e.g. Lynn, 1991; Shah et al., 2012; Worchel et al., 1975). The product is perceived to be more valuable when a product is highly sought after and desirable to many. Cialdini (2009) have stated that consumers value an item more not only when it is scarce, but when they are in ‘competition’ for it. Acquiring an item that is also wanted by a lot of other individuals provide a satisfying feeling towards the user, hence it is perceived to be more valuable (Nelissen & Meijers, 2011; Phau & Prendergast, 2000). This explained why Hermès Birkin is extremely valuable in consumers’ eyes. In some cases, when competition among consumers is accompanied by social facilitation and time pressure (e.g. auction or Black Friday sales), it may also stimulate adrenaline rush which encourages consumers to fight to obtain the desired items (Nichols, 2012). This finding can be seen in real life marketing examples. For instance, when Kanye West

released Kanye West x Adidas Yeezy limited edition trainer shoes, there were hundreds of people queuing for two days to get their hands on a pair of Kanye West new trainer. The fact that the shoes are extremely limited yet desirable by many have caused the product to be more valuable. The pair of trainers was sold out within 15 minutes after it was released and sold at \$ 10,000 on eBay, which was initially priced for \$200 a pair in the retail store.

H5 tested the influence of perceived value towards purchase intention of the desired brand. It was proposed that perceived value has a positive influence on purchase intention in all scarcity conditions. The hypothesis was supported. Supporting previous studies, the more valuable the product, the more likely consumers purchase the desired (elite) brand (e.g. Bian & Forsythe, 2012; Hung et al., 2011; Li, Li, & Kambele, 2012; Shukla & Purani, 2012).

H6 investigated the role of self-efficacy as the moderating role between perceived value and purchase intention. It was hypothesised that self-efficacy strengthen the relationship between perceived value and purchase intention of the elite brand. This hypothesis was partially supported. Only in supply-driven scarcity cue condition, self-efficacy enhanced the relationship between perceived value and purchase intention. In other words, consumers with greater self-efficacy (e.g. financial ability, knowledge, etc.) are willing to sacrifice more money to purchase products presented with supply-driven scarcity cues as compared to products presented with demand-driven scarcity cues. This finding can be explained by the rapid growth of luxury brands owners over the years. Due to the increased of luxury consumers, owning luxury brands is no longer a measure of status, uniqueness and wealth. Luxury brands which are too popular or even non-limited luxury brands are perceived to be mainstream and have caused the brand to devalue. This effect is accentuated since publicly consumed luxury-branded products are socially visible to others. As a result, consumers, specifically those with greater self-efficacy are more likely to steer away from socially visible luxury brands which are deemed to be too popular. They are more likely to choose luxury-branded products which are scarce and limited in order to satisfy the need of uniqueness and portray status to others. Therefore, although perceived scarcity had no significant influence towards perceived value, this finding demonstrated that scarcity cues are essential for luxury-branded products.

5.8 CONCLUSION

This study contributes in several ways to the body of literature.

5.8.1 Theoretical Contribution

This study offers significant theoretical contributions. First, this study is one of the first to extend the theory of agonistic behaviour from the field of biological sciences to marketing. An extensive literature review on the theory of agonistic behaviour was provided to understand animal behaviour when competing for scarce resources. Based on the thorough literature review, this study identified the behavioural similarities between animals and human beings in competing for scarce resources in marketing and luxury branding context, in order to understand how consumers perceive and respond to the different heuristic scarcity cues.

Second, the study developed a theoretical framework that explains the consumer purchase behaviour within the luxury branding industry, as underpinned by the theory of agonistic behaviour and supported by the S-O-R model. The developed framework included the role of perceived competition as the antecedent to perceived value and purchase intention in luxury branding context, which was underexplored (e.g. Verhallen & Robben, 1994).

Third, the study addressed the research gap in scarcity literature by taking into consideration the option of consumers being submissive and prefer not to purchase the desired brands. This study challenges the assumption in scarcity research by demonstrating that scarcity effect may not always lead to purchase intention of luxury-branded products/services. Instead, this depends on the type of scarcity cue portrayed and individuals' personal factors.

Last, the study examined the role of self-efficacy in moderating the relationship between perceived value and purchase intention, which often seem to be overlooked and implied (e.g. Amatulli & Guido, 2010; Bian & Forsythe, 2012; Kim & Ko, 2012; Knight & Kim, 2007; Hung et al., 2011). The inclusion of self-efficacy into the study is useful in identifying consumers' preferences of luxury-branded products promoted with marketer-induced scarcity strategies.

5.8.2 Methodological Contribution

Methodologically, the developed theoretical framework is the first step in understanding the theory of agonistic behaviour in a luxury branding context. The results of the analysis showed that the framework is applicable for examining consumers' perception and competitive behaviour towards luxury-branded products/services advertised with heuristic scarcity cues.

Furthermore, this study attempted to capture the most accurate response by showing the respondents product simulated digital pamphlets along with brand information and appealing visuals from the official brands. Although previous studies often implement the recall method from the respondents' personal experience to avoid framing responses (Bian & Forsythe, 2012), differing experiences for each respondent make it difficult to control for unaccounted factors and to maintain a clear baseline. Thus, a provided stimulus with pre-selected non-fictitious brands offers greater consistency and avoids confounding variables. The stimuli were also created as authentic as possible to replicate the official luxury brand communication materials, which increase the ecological validity of the study. Pre-tests were also conducted in order to confirm the realism of the stimuli prior to data collection.

This study also acknowledged the different preferences and choices across gender, thus, the stimuli for both male and female respondents were differentiated to cater both perspective and remove gender biases. This research also demonstrated no significant difference in terms of the results between the two genders, indicating that the stimulus differentiation based on gender is effective.

Additionally, the intention to purchase was presented in a continuum scale in which option 1 represented a strong intention to buy the alternative brand, 4 represented neither alternative nor elite brand, and 7 represented a strong intention to buy the elite brand. The alternative-elite continuum approach may serve as a paradigm shift in approaching the purchase intention scale. Unlike previous studies which only measure purchase intention for one product, a continuum scale highlights a more accurate idea of intention to purchase a specific product relative to its alternative(s).

5.8.3 Managerial Contribution

From a managerial perspective, this study provides insights to luxury brands managers that the perception of scarcity is not sufficient to influence consumers' perception of the product value. A scarce product, but not desirable and highly sought out, will not have any influence on product value. In order to improve the perceived value of a product, the product should be perceived to be sought after and desirable by others.

As identified previously, luxury-branded items play a vital role in portraying status and wealth to others (Kapferer, 2012). Therefore, successful luxury brands should be desirable and recognised by mass consumers to evoke envy and respect of others (Kapferer, 2012). To increase brand/product desirability, first, luxury brand companies could activate their influencers to communicate their brand to interested consumers. Jimmy Choo, for instance, invited some international bloggers to Switzerland for the launch of their new winter boot line to experience it firsthand, in exchange of sharing styling tips on winter snow fashion (e.g. Kat Collings). Second, luxury brand companies can also bring luxury to their potential consumers by setting up events dedicated to both their loyal and potential consumers. Chanel Culture hosted Mademoiselle Privé Exhibition in Hongkong to educate shoppers who had less awareness about the brand history and identity (Huang, 2018). Third, luxury brand companies should use their online platform to connect with their consumers. This is an effort to create hype surrounding the brands, which will lead to increase brand competition. Burberry is ahead of the pack when it comes to digital media. To promote their lipstick line, Burberry Kisses, Burberry partnered with Google and Grow to create a microsite where users are able to send love notes sealed with their kiss. The #burberrykisses campaign captured media attention globally. It was published in Vogue, Mashable, Techcrunch, Women's Wear Daily etc. and was searched on Google for 253,000 times.

Although luxury-branded items should have a high level of brand popularity and desirability, it is important to note that luxury-branded items should only be owned by a handful of individuals. Although the finding showed there is an insignificant relationship between perceived scarcity and value (in both demand-driven and supply-driven scarcity cue), the illusion of scarcity and exclusiveness remain essential for the success of luxury-branded items. As found in the study, heuristic scarcity cues,

specifically supply-driven scarcity, are still an important factor for individuals with high self-efficacy (resources, skills and knowledge to purchase luxury-branded items). The findings demonstrated that they are more likely to purchase limited edition luxury brands compared to non-limited or “nearly sold out” luxury brands. Consumers with high self-efficacy have the need to be unique and distinguish themselves from others. Therefore, luxury brand managers and advertisers should maintain and strengthen the exclusivity and scarce image in consumers mind by managing scarcity cues appropriately. This finding is in line with the ‘rarity principle’ stated by Dubois and Paternault (1995) and Mason (1981). According to the concept, luxury brands must sustain a high awareness level and tightly controlled brand diffusion to enhance exclusivity. This statement becomes increasingly relevant to the current market situation where more and more people own luxury brands; hence prestige is eroded.

Luxury brand managers should create the illusion that luxury brands are not products which can be easily obtained and purchased. The strategies may include (1) to provide limited stock in every retail store to create the perception of scarcity and exclusivity; (2) do not overproduce and/or excessively offer limited edition collection. Rolls Royce is an excellent example to illustrate this strategy; they aim to sell just one car more than was sold in the previous year and focus more on custom-made products; and (3) luxury brand companies may also offer personalised one-of-a-kind item to ensure exclusivity and uniqueness for consumers. Luxury cars, such as Rolls Royce and Aston Martin, offer the ultimate bespoke option to allow the users to express their personal style and take part of the car production based on the customers’ imagination.

In term of product distribution, luxury branding companies may: (1) only release a specific product range to a specific region. For example, in 2016, Rolls Royce specifically built the new limited edition Ghost, inspired by the beauty and grace of the white swan, for the Chinese market to celebrate Valentine’s Day (Patel, 2016); and (2) employ selective distribution strategy which limits the distribution channels and only distribute to prestigious areas and well-reputable retailers. For example, twice a year, 1,000 store representatives of Hermès store around the world to come to Paris for an event called Podium (Hermes Strategy, 2018). Each flagship is asked to choose at least one item from each of the 11 product categories, beyond the common categories (designer bags, scarves, ties, perfumes, etc.), which will be showcased and sold in store (Hermes Strategy, 2018). By implementing this strategy, not all products

are available in each store, thus creating the illusion of product exclusivity and scarcity.

Indeed, physical rarity is not welcomed by shareholders of listed luxury groups as it prevents fast growth and high sales (Kapferer, 2012). The study has found that consumers may behave aggressively or submissively when they are exposed with luxury-branded products/services with scarcity cues. As discussed, due to the product scarcity and exclusivity, consumers with low self-efficacy are more likely to behave submissively and choose to purchase alternative brands/products. A potential solution for luxury brand companies is to introduce alternative products to consumers, instead of offering sales promotion and selling as many items which will devalue the brand. Therefore, consumers who are unable to purchase the elite product range, are able to choose the alternative product. As demonstrated, Hermès Birkin is extraordinarily exclusive and valuable hence luxury consumers are willing to spend hundred-thousand dollars for a piece of Birkin. Other than Birkin, however, Hermès owns different product line under their belt that is offered at a lower price and more accessible to acquire allowing others to have a piece of Hermès. With these strategies, Hermès is able to maintain its product exclusivity and brand value while maximising profit. Moreover, instead of introducing alternative products, luxury brands companies may extend their brand portfolio targeting different groups of consumers. By having different brands within their portfolio, they can cater to a large number of target markets, with minimal risk of diluting the brand image as each brand has a clear brand positioning and target market. Giorgio Armani is a fashion house which has several labels catering to different consumer class. Some of the brand portfolios include Armani Jeans, Armani Junior, Armani Exchange, Emporio Armani, etc. For instance, Giorgio Armani is a high-end label specialising in both men's and women's clothing and accessories while Armani Exchange is targeted to individuals seeking a more affordable premium clothing.

5.8.4 Limitations and Future Research Directions

Despite the contributions of this study, there are a number of limitations to the study, such as:

1. The study focused on Australian consumers. Australian consumers may have different cultural backgrounds, preferences and attitudes making it difficult for

the results of this study to be generalised to other consumers from other countries. Future studies could replicate the study with luxury consumers from different cultural backgrounds to test and confirm the findings of this study.

2. Second, the current research only applied the developed theoretical framework in a luxury brands context. Future studies are able to apply the framework for different product categories, including non-luxury products.
3. The aggressive and submissive behaviour were only measured through a proxy (purchase intention), instead of the actual purchase behaviour. Hence, the current study might not capture the actual aggressive and submissive behaviour in luxury consumption. As identified, aggressive and submissive behaviour have a different level of intensity. Future studies should consider monitoring the luxury consumers' behaviour in real time to identify the specific behaviour of aggression and submission. An auction like simulation may also be conducted in future studies to provide a more accurate measurement for both aggressive and submissive behaviour.
4. The scale items for perceived scarcity only measured the scarcity perception within the store (products that are relatively scarce at one particular location or point in time but may not be scarce at other locations or points in time) (Van Herpen et al., 2009). Perceived scarcity was not measured in an absolute sense, in which the number of products in a particular market situation is limited (Van Herpen et al., 2009). Given that there are now numerous channels through which products can be obtained, this needs to be addressed in future studies.
5. Some variables were not taken into account, such as personality factor (self-esteem, status consumption, the need for uniqueness, etc.), opinion leadership, the presence of an audience, etc. Future studies should consider including moderators that may influence consumers' decision in performing the aggressive or submissive behaviour in luxury branding context.
6. This study focused only on two scarcity conditions (supply-driven and demand-driven scarcity cues), luxury brand industry, and public luxury product (designer bag). Future studies should look at time-restricted scarcity cues, retailing or restaurant, and private luxury products (e.g. underwear, perfume).

CHAPTER SIX (STUDY TWO)

THE ALLURE OF ‘INVISIBLE’ LUXURY: THE EFFECT OF SCARCITY HEURISTIC CUES ON PRIVATELY CONSUMED LUXURY BRANDED PRODUCTS

6.1 CHAPTER INTRODUCTION

Chapter Six is structured to follow a stand-alone journal article. However, for the purposes of this thesis, this chapter shows a thorough record of the analyses conducted in Study Two along with the findings of this study.

This chapter aims to build and extend on the previous chapter to validate the framework identified. This study also focuses on privately consumed luxury-branded products (underwear) to generalise the study in different context. The following table provides a recap to identify the product categories and chapter objectives for chapter five, six, and seven.

Chapter	Product Category	Chapter Objectives
Chapter Five (Study One)	Publicly consumed luxury-branded product (bag)	<ul style="list-style-type: none">• Theory building (by extending the theory of agonistic behaviour to consumer studies)• Conceptual framework development
Chapter Six (Study Two)	Privately consumed luxury-branded product (underwear)	<ul style="list-style-type: none">• Validation of the theoretical model• Generalisation study to a different product category (privately consumed product)
Chapter Seven (Study Three)	Luxury experiential service product (fine-dining restaurant)	<ul style="list-style-type: none">• Generalisation study to a different product category (experiential service)• Testing of moderator (opinion leadership/seeking)

The structure of this chapter is as follows. The chapter opens with an abstract of the study followed by an introduction to provide the study’s background. A summary of the relevant literature review and hypotheses development is presented in the next section. The chapter continues with the research methodology, the results and hypotheses testing. The chapter concludes with a discussion of the results from Study Two.

6.2 ABSTRACT

Purpose – This study examines the effects the different scarcity heuristic cues (supply-driven and demand-driven scarcity) on consumers' perception and attitude in the context of privately consumed luxury-branded products. Underpinned by the theory of agonistic behaviour, this study investigates the influence of perceived scarcity and competition on perceived value and purchase intention for privately consumed luxury-branded products. Self-efficacy is also included as a moderating variable for the relationship between perceived value and purchase intention.

Design/methodology/approach - A self-administered questionnaire was designed using established scales and utilised non-fictitious luxury brands as stimuli to create ecologically valid scenarios. Data was collected in Australia using Qualtrics in which screening questions ensured that respondents were luxury consumers. One-way ANOVA and Structural Equation Modelling were used to analyse the data.

Findings – The study demonstrated consistent results from publicly consumed luxury-branded products, which showed that demand-driven scarcity cues were perceived to be scarcer compared to supply-driven scarcity cues. The study demonstrated that perceived competition is a predictor of perceived value, but perceived scarcity is not. Furthermore, self-efficacy was found to enhance the relationship between perceived value and purchase intention. However, contrary to publicly consumed products, a significant moderation was observed on the relationship between perceived value and purchase intention only in control condition.

Practical implications - The research findings offer recommendations for brand managers, specifically on privately consumed luxury-branded products. Although privately consumed luxury-branded products are generally used out of public view, the perception of scarcity and exclusivity remains essential. Thus, brand awareness should be high but product distribution and ownership must be low.

Originality/value – This paper demonstrates clear differences in the influence of different heuristic scarcity cues on consumers' perception and behaviour in the context of privately consumed luxury-branded products. Furthermore, this study applies a framework, underpinned by the theory of agonistic behaviour, which has not been previously used in studies on the luxury branding industry.

6.3 INTRODUCTION

The film Pretty Woman was indeed a memorable 90s movie for a lot of reasons, but one of the scenes stood out the most. In that scene, the actress Julia Roberts goes shopping in an expensive Beverly Hills boutique and is refused service due to her cheap and tasteless outfit. The saleswoman says, "I don't think we have anything for you. You're obviously in the wrong place. Please leave."

The story is merely fictional, yet the reality is not any different. Individuals are often judged based on what they wear, which in turn influence how they are being treated. Wearing or using certain items are able to satisfy social needs for belonging, popularity, admiration, respect, and to be envied by others (Fromkin, 1972; Belk, 1985; Lascu & Zinkhan, 1999). Conspicuous products (e.g., luxury items) may satisfy all of the aforementioned social needs (Vigneron & Johnson, 2004; O'Cass & Frost, 2002; Marcoux, Filiatraut & Cheron, 1997). Individuals who wear luxury brand labels are perceived as wealthier and receive higher status ratings (Nelissen & Meijers, 2011). They may also receive more favourable treatment in social interactions which, in turn, yield social and financial benefits (Nelissen & Meijers, 2011). For example, commuters have been found to be more patient and do not honk as quickly when traffic lights turn green if the car in front of them is more expensive (Doob & Gross, 1968). Fennis (2008) found that individuals have the tendency to act submissively when confronted with an individual who displays luxury-branded products.

Therefore, consumers purchase luxury brands, not so much because of the functional attributes attached to the product, but more so due to the intangible and emotional qualities associated with the product (e.g. Belk, 1985; Wilcox, Kim, & Sen, 2009; Wang & Griskevicius, 2013; Dubois & Duquesne, 1993). In the consumers' mind, luxury brands are perceived as possessing greater non-functional attributes such as more pleasing aesthetics, rarity, extraordinariness, and quality (Heine, 2012). It is crucial for luxury-branded products to have some degree of desirability (or status) in consumers' eyes. True luxury brands are individually made and inspired by an act of creativity resulting in a superior degree of artistry at the best possible level (Kapferer, 2014). It also offers a high level of craftsmanship which requires extraordinary time and effort to produce (Kapferer, 2014).

Furthermore, like magicians, luxury brands offer the illusion of scarcity in which only exclusive and niche groups are able to acquire their products (Catry, 2003). Only those who have the self-efficacy or appropriate resources (e.g., financial, time, knowledge, experience) may purchase luxury brands. Through high price and exclusive distribution, these scarcity illusions are created to set an entrance barrier for non-luxury consumers, making it impossible for the mass market to attain them (Vigneron & Johnson, 2004). As a result, an individual of a higher social class can differentiate themselves from others of lower social class (Veblen, 1892; Bagwell & Bernheim, 1996). The Economist (1993) emphasized that luxury companies may harm its brand image by selling their items too cheaply. An article in the Wall Street Journal stated that "a BMW in every driveway might thrill investors in the short run but ultimately could dissipate the prestige that lures buyers to these luxury cars" (Bagwell & Bernheim, 1996, p349). These singular characteristics enable luxury-branded goods to be desirable and to command a high price (Simonet & Virgile, 2013).

Other than maintaining its exclusivity and scarcity, in order to have any effect on social interaction and to satisfy the need for status, luxury-branded products should be visible and recognisable (Nelissen & Meijers, 2011; Hudders, 2012; Fan & Burton, 2002). Social visibility is important because it is easily observed and convey the intended effect instantly (Childers & Rao, 1992). On the other hand, privately consumed goods such as nightwear, underwear and perfume require self-reporting as it is not externally verifiable (Chao & Schor, 1998). Self-reporting is perceived not to be credible and it also reveals one's concern with status, which in some context, undermines status (Chao & Schor, 1998). Therefore, consumers are more likely to purchase publicly consumed luxury products such as handbags, cars, shoes and watches than privately consumed luxury products to impress their peers (Chao & Schor, 1998).

Nevertheless, for the past twenty years, luxury brands have widened their customer reach which has resulted in luxury becoming accessible to the masses; defying the traditional idea of exclusivity and uniqueness that has always been the essence of true luxury (Simonet & Virgile, 2013). The increasing number of luxury consumers have resulted in some luxury consumers perceiving some popular brands negatively and choosing to avoid them. Louis Vuitton, for example, is now extremely popular amongst the middle class, and, is thus avoided by many luxury consumers. The brand has even been referred to as a "brand for secretaries" in China (Willett, 2015). As a

result, consumers who have high self-efficacy – the appropriate resources (e.g. knowledge, financial ability, time, experience) to perform the specific task – are more likely to purchase limited edition luxury-branded products as compared to more popular collections (Gierl & Huettl, 2010; see Chapter Five).

Interestingly, privately consumed luxury-branded products such as perfumes, underwear, kitchen and appliances have experienced rapid growth over the past few years and is projected to increase in the years to come. For instance, the global luxury nightwear market has reached \$29.2 billion in 2014, expanding at a compound annual growth rate of 11 percent from 2009 to 2014 (Mellery-Pratt, 2015).

Moreover, it is prevalent for a luxury brand to own a diverse product portfolio, ranging from publicly consumed products (e.g., handbags, shoes and watches) as well as privately consumed products (e.g., underwear, pyjamas, and perfumes. For instance, Saint Laurent offers undergarment collections that cost approximately \$500, while Prada provides silk-twill pyjamas that cost up to \$2,200. Although privately consumed product categories generally have a lower price bracket as compared to publicly consumed products, the lucrative returns from the consumption of privately consumed products are undeniable (e.g., Berger & Ward, 2010; Postrel, 2008).

6.3.1 Justification of the Study

The rise of privately consumed products shows that luxury consumption does not necessarily equate to the consumption of publicly consumed products, an association that has previously been assumed by many scholars (e.g. Mason, 1981; Rahman, Yan, & Liu, 2009; Sirgy, Johar, & Wood, 1986; Sundie et al., 2011). Limited research has been conducted to understand the underlying consumer psychology for privately consumed luxury-branded product category.

As discussed in Chapter Five, luxury brand companies often use heuristic scarcity cues (demand-driven and supply-driven) as a marketing tool to promote their items, yet the influence of the different scarcity cues are not well understood in theory. For instance, unlike publicly consumed products that are perceived more positively when offered as limited editions (as opposed to being highly in demand), Gierl and Huettl (2010) found a reverse effect for privately consumed products. The products are perceived more positively when promoted as scarce due to high demand, in comparison to being

promoted as a limited edition. Although Gierl and Huettl's (2010) study did not focus on luxury brands, the results demonstrated that different product categories require different marketing strategies, specifically in terms of heuristic scarcity cues. This finding then raises the question as to whether a similar result can be found in a luxury branding context, specifically for privately consumed luxury-branded products.

6.3.2 The Scope and Research Objectives of the Study

This study focuses on how different heuristic scarcity cues (demand-driven and supply-driven) influences consumers' perception and behaviour in the context of privately consumed luxury-branded products. Previous studies have identified the influence of scarcity effects on publicly consumed luxury-branded products (as discussed in Chapter Five). However, as mentioned, limited studies have examined the influence of scarcity effects on privately consumed luxury-branded products, warranting further study in the area.

This study uses luxury underwear as the stimulus and non-fictitious brands are chosen to create a realistic scenario for the respondents. The market for underwear and lingerie is booming and expecting exceptional growth in the future (Fashionbi, 2018). Today, the luxury intimates segment is contributing highly to the growth of undergarment sector estimated to reach €24.18 billion by 2017 (Fashionbi, 2018). For example, Marks & Spencer has gained a 27.6% market share in the UK, selling more than 21 million bras every year and 2 underwear every second (Sutherland, 2018). Despite the significant growth in the undergarment industry, limited studies have investigated the phenomenon.

Moreover, the current research focuses on elite luxury brands and alternative (non-elite) brands. The elite-level luxury brands are the top of the top luxury hierarchy – generally are bespoke and not accessible to the mass market – that serve as the benchmark of highest exclusivity and best quality (Rambourg, 2014). Alternative brands are brands that serve as a close substitute for the first brand choice (e.g., mimic brands and counterfeits of luxury-branded products) (adapted from Ang et al., 2001; Teah, 2010). Accordingly, this research aims to use purchase intention for elite luxury brands and alternative (non-elite) brands as a proxy for 'aggressive' and 'submissive' behaviour.

The research objectives addressed in this study are as follows:

- RO1:** To determine the relative effects of various scarcity cues (supply-driven, demand-driven, and control) on perceptions of product scarcity and competitiveness;
- RO2:** To evaluate the influence of perceived competition and scarcity on perceived value which, in turn, influences purchase intention in the privately consumed luxury-branded products context; and
- RO3:** To examine the moderating effects of self-efficacy on the relationship between perceived value and purchase intention.

6.4 RELEVANT LITERATURE AND HYPOTHESIS DEVELOPMENT

6.4.1 Defining Luxury Brand

Kapferer (1997, 253) defined the word ‘luxury’, its sociological references and the pragmatics of luxury-brand management as *“Luxury defines beauty; it is art applied to functional items. Like light, luxury is enlightening. [. . .] They offer more than mere objects: they provide a reference of good taste. . . Luxury items provide extra pleasure and flatter all senses at once. . . Luxury is the appendage of the ruling classes.”*

In the literature, there is an agreement to describe luxury goods as particular branded items which are used or consumed, apart from its functional utility, to bring esteem to the owner (Vigneron & Johnson, 2004). True luxury goods do not seek rational justification for either their creation or their price (Simonet & Virgile, 2013). Luxury brands are often linked to both the impressive-functional facet (which relates to the quality, craftsmanship and durability of luxury brands) and the impressive-emotional facet (which relates to the symbolic qualities of luxury brands) (Vigneron & Johnson, 1999; Hudders et al., 2013). Therefore, luxury-branded products allow the owner to satisfy both psychological and functional benefits, in which these psychological needs are the main elements that differentiate them from non-luxury products or counterfeits. Luxury brands are defined as brands/products whose price and quality ratios are the highest of the market (McKinsey 1990), and although the ratio of functionality to price might be low with regard to certain luxury goods, the ratio of intangible and situational utility to price is comparatively high (Nueno & Quelch, 1998).

Moreover, the high price and exclusive distribution of luxury-branded products have caused a peculiar relationship between the traditional economic theory of supply and demand. As the Rarity Principle states, “luxury products are perceived by consumers as rare products; when over diffused, they gradually lose their luxury character” (Dubois & Paternault, 1995, p72). In other words, luxury brands companies must maintain a high level of awareness and demand to create a ‘dream’ brand or value, yet the supply must remain low. The barrier between consumers and non-consumers is indeed an essential element of luxury brands. The illusion of scarcity and exclusivity created by luxury brands allows the owner to differentiate themselves from the masses, making them a part of the elite and afford them social status. Therefore, should luxury

companies reduce the price for all their products, they would see an increase in sales for a short period and little to no sales in the long run (Bagwell & Bernheim, 1996).

Vigneron and Johnson (2004) demonstrated that there are five perceived dimensions of successful luxury brands. In the framework, there are three latent luxury dimensions reflecting non-personal-oriented perceptions. The first dimension is perceived quality (Vigneron & Johnson, 2004). Luxury brands are expected to produce high-quality products and performance as compared to non-luxury brands. The second dimension is perceived conspicuousness (Vigneron & Johnson, 2004). Consumers purchase luxury brands to enhance their social status and evoke envy in others (Veblen, 1898), thus social visibility is important. Non-visible goods are not preferred due to their inconspicuous nature and inability to be externally verifiable (Chao & Schor, 1996). Moreover, non-visible goods require self-reporting which may raise issues because it is considered as not credible and may indicate an individual's concern with the need of social approval, which, in some contexts, undermines status (Chao & Schor, 1996). An observation of consumption patterns highlights this notion. For instance, consumers are more likely to spend more money on decorating public rooms (e.g., living and dining rooms), in comparison to private rooms (e.g., bedrooms) (Chao & Schor, 1998); wealthier households spend a greater share of their income on visible items (e.g., cars and clothes) as opposed to private items (e.g., underwear and laundry) (Heffetz, 2007). The third dimension is perceived uniqueness. Individuals display a need for uniqueness when they are searching for products which are rare and difficult to acquire (Vigneron & Johnson, 2004), which can be fulfilled by acquiring luxury brands as they are not easily obtained by the mass market. As identified, the true meaning of a luxury lies in its uniqueness, rarity, and the inability of the masses to obtain it (Dubois & Paternault, 1995).

The remaining two dimensions are personal-oriented perceptions, namely, perceived hedonism and perceived extended self (Vigneron & Johnson, 2004). Perceived hedonism is the desire to consume and acquire products to obtain emotional value, allowing consumers to achieve personal rewards and fulfilment, rather than utilitarian needs (Vigneron & Johnson, 2004). It promotes personal gratification and pleasure through the acquisition of products and services that require an above-average income (Thompson, 2010). The 'lipstick effect,' a phrase coined by Estee Lauder, captures a well-known phenomenon in which individuals purchase affordable luxuries as a

substitute for more expensive items after experiencing psychological stress (Kapferer, 2012). For instance, a woman may buy YSL lipstick for \$60, a price far beyond what its functional value commands, to feel a sense of luxury and to escape into an ideal world of beauty, pleasure, and gratification (Kapferer, 2012). However, for its magic to happen, these products or services have to be from brands that are notable and prestigious (Kapferer, 2012). Brands which are not perceived to be as popular and luxurious will not provide the same level of impact to consumers. Finally, the fifth dimension is perceived extended-self. Similar to perceived uniqueness, perceived extended-self relates to the consumer's need to associate themselves with others and yet also try to express their identity based on the symbolic meaning. Consumers have the tendency to buy and consume products in tune with their self-concepts as underlined by the image-congruence theory (Sirgy, 1982, 1985; Sirgy et al., 1997). Individuals have the tendency to consider their possessions as part of their identity (Belk 1985), thus highly materialistic consumers are more likely to appreciate luxury brands as a means of achieving happiness and portraying personal success (Bearden, Netemeyer & Teel, 1989; Richins, 1994; Vigneron & Johnson, 2004).

6.4.2 Limited Research on Privately Consumed Luxury-Branded Products

As mentioned, the consumption of luxury brands aims to signal wealth, show power and status, and distinguish oneself from others (Leibenstein, 1950). It also allows the owner to improve their self-esteem and self-image through branded products (Nia & Zaichkowsky, 2000). Additionally, from the perspective of evolutionary psychology, luxury brands are a useful social strategy because it serves as a costly signalling trait that provokes status-dependent favourable treatment in human social interactions (Nelissen & Meijers, 2011). Individuals who display luxury brands are treated better by others, as compared to those who do not (Nelissen & Meijers, 2011). Women perceive men with luxury brands as more attractive due to the association with high social status (Buss, 2003; Dunn & Hill, 2014), while women who possess luxury brands are perceived to be more attractive, sexy, smart, mature, and ambitious, as compared to those who do not (Hudders et al., 2014). These signalling cues improve their benefits against same-sex rivals for companions. This signalling trait has become exceptionally important in today's society as it plays a role in identifying individual's status and class within the group.

These studies, however, only focus on products that are easily observed by the general public. Luxury products which are used in private, however, are motivated by different factors. Despite substantial research in the context of publicly consumed luxury-branded products, the privately consumed luxury-branded products have been underexplored (Hume & Mills, 2013). Furthermore, it is vital to address this research gap within the literature since the rise of privately consumed luxury-branded products underscores that luxury consumption is not always associated with conspicuous consumption and the display of luxury for others; a relationship which has been thus far assumed in the marketing literature (e.g., Mason, 1981; Sirgy, Johar, & Wood, 1986; Sundie et al., 2011).

6.4.3 Publicly Consumed vs Privately Consumed Luxury-Branded Products

Publicly consumed luxury products are items which are consumed in public view and seen by others, such as car, handbag, shoes, etc. (Bearden & Etzel, 1982; Giert & Huettl, 2010). On the other hand, privately consumed luxury products are items which are consumed out of public view and generally are not seen by others, such as underwear, nightwear, kitchen appliances, etc. (Bearden & Etzel, 1982; Giert & Huettl, 2010). However, the categorisation is also situation-dependent for some product categories (Heine, 2012). For example, a wallet can be consumed in public or out of public when put inside the handbag. Similarly, a premium wine can be consumed at a restaurant and enjoyed with family or friends (publicly consumed luxury-branded products) or at home by oneself (privately consumed luxury-branded products). As a result, to avoid ambiguity, undergarment category is chosen as it is generally worn out of public view.

Both publicly and privately consumed luxury-branded products demonstrate distinctly different consumption patterns and provide different signals. For instance, publicly consumed luxury-branded products are usually more conspicuous and communicate positive images associated with the brand. Therefore, publicly consumed luxury-branded products is useful for the display of social class and wealth (Berger & Ward, 2010; O’Cass & McEwen, 2004) to increase self-esteem and evoke envy from others (Veblen, 1899).

In contrast, privately consumed luxury-branded products are often less conspicuous, commonly used to enhance self-worth and less likely to serve external signalling

purposes (except to intimate associates) (Bian et al., 2015). For privately consumed products, consumers may also look for more discreet benefits instead of conspicuous benefits, such as the quality of the product (Vigneron & Johnson, 1999; Beverland, 2006) and self-directed pleasure (Silverstein & Fiske, 2003; Tsai, 2005). It is also generally offered at a lower price range and have a higher density in distribution compared to publicly consumed luxury-branded products. A 100 ml Chanel N°5 Eau de Parfum is priced at AUD 135 and it can be purchased in both in store and other places, such as airport hubs and personal care stores. Nonetheless, Chanel handbag is priced between AUD 3,000 to AUD 15,000 and can only be purchased through their official store.

The different nature of these products' social consumption raises the question of whether or not scarcity is crucial for privately consumed luxury-branded products. This study, therefore, aims to identify the impact of the different heuristic scarcity cues on consumer perception and behaviour in the context of privately consumed luxury-branded products, specifically within the category of undergarments.

6.4.4 Scarcity Effect

Scarcity appeal has been one of the most effective marketing persuasion strategies to stimulate consumers' intention of purchase. Producing limited editions, distributing items exclusively to selected outlets and claiming that a large number of units have been sold out are some examples of marketing strategies to signal product scarcity (Brock, 1968; Lynn, 1991; Gierl et al., 2008). Luxury brands' symbolic attributes, including the perception of scarcity, have become the selling point of luxury brands (Pantzalis, 1995; Phau & Prendergast, 2000). The rarity, exclusivity, and prestige of luxury brands have made it true luxury for the consumers.

Previous literature on scarcity have found that individuals are more likely to assume that scarce product are more expensive (Fromkin et al., 1971; Atlas & Snyder, 1978; Worchel et al., 1975). Numerous research also showed that perceived scarcity positively influences perceived quality (Chen & Sun, 2014; Wu et al., 2012). Since scarcity is associated with expensiveness, individuals tend to use price as an indicator of quality (Stock & Balachander, 2005). In many cases, uninformed consumers assume that informed consumers are purchasing the product showing due to its high quality (Stock & Balachander, 2005). Additionally, individuals may perceive scarce products

as a threat to their freedom of choice, even when it is unrelated to personal safety. As a result, product scarcity often promotes impulse purchase (Agarwal et al., 2011) and motivate buyers to purchase the products (Chen & Sun, 2014). Perceived scarcity is also shown to increase the products perceived uniqueness (Chen & Sun, 2014). It is logical that scarce and expensive products are unlikely to be acquired by the mass market, thus the owner of the scarce items may be perceived as unique and different. This statement was also supported by Park et al.'s (2008) study, as they found that consumers' need for uniqueness positively influences purchase intention of luxury brands, presenting that scarcity value is an important aspect for luxury brands. In turn, based on scarcity literature, it increases the perceived value of the products (Lynn, 1991; Szybillo, 1975) and improves the product desirability (Fromkin et al., 1974). It will also lead to a sense of urgency to purchase the resources (Aggarwal et al. 2011) and motivate buyer to purchase the products (Chen & Sun, 2013; Park et al., 2008).

6.4.5 Heuristic Scarcity Cues

There are two types of heuristic scarcity cues that are commonly used in the context of luxury branding industry: demand-driven and supply-driven scarcity (Verhallen, 1982). Demand-driven scarcity can be signalled with phrases such as "over 100 sold" or "in popular demand" It indicates that there is only limited stock available in store since the majority of products have been sold. Scarcity due to limited supply, on the other hand, occurs when the companies produce a limited number of products, intentionally or unintentionally (due to limited availability of resources) which are not sufficient to satisfy the market. Supply-based scarcity can be signalled through the phrase "limited edition" or "while supplies last."

Scarcity cues, nevertheless, do not always have a positive effect on consumers' attitude towards the product. As identified, supply-driven scarcity is more effective for publicly consumed products, but not effective for privately consumed products (Gierl & Huettl, 2010). When products are scarce due to quantity constraints, consumers tend to perceive it as unique, distinct, and novel (Szybillo, 1975). Consequently, consumers who have a high need for uniqueness often respond to scarce products in a positive manner (Fromkin, 1970). They are more likely to perceive the product as possessing higher value and have higher intention to purchase them. Therefore, supply-driven scarcity is suitable for publicly consumed products which have high symbolic value

and are used to display status and uniqueness (Gierl & Huettl, 2010). Other than being limited in supply, strong evidence suggests that limited edition products are often offered at higher prices than regular items (Shin et al., 2017). Furthermore, due to better craftsmanship along with unique and rare features, limited edition products are more likely to be associated with high status and a sense of singularity (Amaldoss & Jain, 2008).

In contrary, demand-driven scarcity cue is more effective for privately consumed products but not effective for publicly consumed products (Gierl & Huettl, 2010). Demand-driven products tend to be regarded as high-quality and superior products as it is perceived as popular (Caminal & Vives, 1996). Surowiccki (2004, 11), in 'The Wisdom of Crowds,' stated, "With most things, the average is mediocrity. With decision making, it's often excellence. You could say it's as if we've been programmed to be collectively smart". When many diverse consumers make decisions individually, the average of these decisions is more likely to point towards better options and remarkably accurate (Van Herpen et al., 2009). Other than quality perceptions, when purchasing products in high demand, consumers are more likely to associate themselves with other buyers (Gierl & Huettl 2010) and to conform to others. As a result, demand-driven products are not practical for conspicuous products and more likely to be useful for non-conspicuous products.

6.4.6 Theoretical Framework

Over the decades, scholars have integrated animals in their research to reveal insights into the origins of the human species and evolutionary history (e.g. Confer et al. 2010; Cummins, 2005; Saad 2007). They believe that animals portray physiological, genetic, and behavioural similarity with human beings, making them a valid model system to understand consumer behaviour (Colarelli & Dettmann 2003; Griskevicius & Kenrick 2013; Griskevicius et al. 2009; Saad & Gill 2000). For instance, evolutionary psychology uses the logic of natural selection to understand human mental processes and behaviour (Colarelli & Dettmann 2003). It is an apt marriage between modern psychology and evolutionary biology to understand the fundamental reasons behind internal psychological mechanisms (Buss 1995).

Thus, based a careful examination of the biology literature, a conceptual framework has been developed to understand how consumers respond to heuristic scarcity cues,

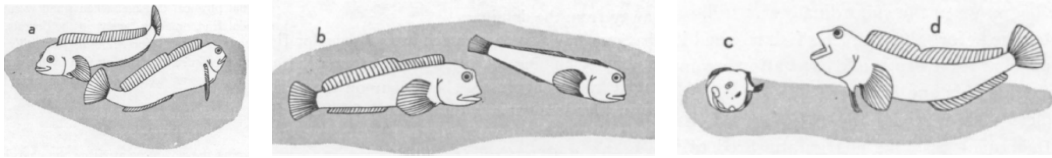
as underpinned by the theory of agonistic behaviour (discussed in Chapter Five). While Chapter Five only used the theory of agonistic behaviour to understand consumers' responses to heuristic scarcity cues in the context of publicly consumed luxury-branded products, this study, applies the theory in the context of privately consumed luxury-branded products.

6.4.6.1 The Theory of Agonistic Behaviour

Resources for survival (e.g. food, shelter and mate) have been and will always be scarce (Mursa 2012). In order to survive, animals are required to compete to achieve a defined territory, which provides food, shelter, and breeding opportunities (Mursa 2012). Interestingly, when animals compete for resources, instead of fighting one another, animals have the tendency to initially perform certain behaviours to scare the opponent off without physically harming them. This behaviour is called agonistic behaviour. It is defined as a “group of behavioural adjustments associated with fighting, which includes attack, escape, threat, defence and appeasement” (Scott & Fredericson 1951).

The theory of agonistic behaviour comprises of three different stages, such as threat, aggression, and submission. In the first stage, ‘threat,’ the animals perform a species-specific vocalizations, postures, facial, and body movements that signal the intent to display aggression (McGlone 1986). As illustrated in Figure 6.1, during an agonistic encounter, blennies (fish) are likely to advance (a slow swimming to another fish) and charge (rapid swimming directly to the victim) which often followed with a threat display (Gibson 1968). The attacking fish raises its head with the mouth open, its tail bend on one side and all its fins erect (Gibson 1968). It also may wave its tail in which the dorsal fins are erected and the hinder body is slightly raised (Gibson 1968). Threat will then lead to two possible scenarios. In the first scenario, the opponent decides to withdraw from the competition after being threaten, which is called as ‘submissive’ behaviour. For example, the subordinate fish folds its fins and presses itself to the ground then it moves away from the charging fish and flee from the scene (Gibson 1968). The second scenario happens when neither animal retreats. The fight then escalates (‘aggressive’ behaviour). Both fish turn their heads from side to side and are accompanied by simultaneous movement of the tail to the same side (Gibson 1968). The fight stops until one of the individual chooses to submit.

Figure 6.1: Agonistic Behaviour Stages in Blennies (Fish)



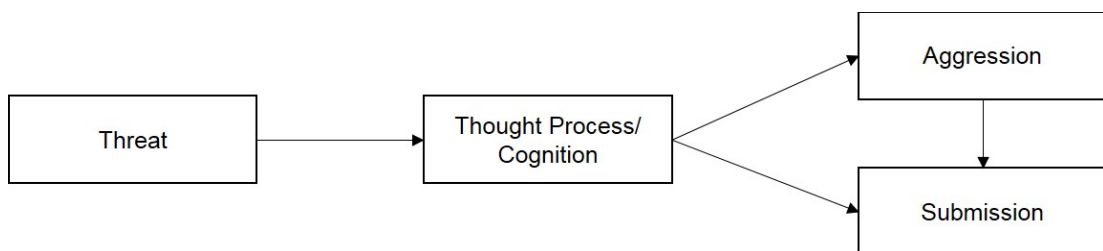
Threat stage: After advancing and charging, the attacking fish perform tail waving (Gibson 1968).

Aggressive stage: Head bending (turn their heads side to side) (Gibson 1968).

Submissive stage: The subordinate fold its fins and pressed itself to the ground, while the dominant performs a threat display (Gibson 1968).

However, before animals decide whether they choose to be aggressive or submissive, they go through a cognitive process where they evaluate the external and internal factors (Premack 2007). One of the primary factors which influences the decision to be aggressive or submissive is heavily impacted by the body size and physical attributes. Animals with large body size and superior body attributes are more likely to be aggressive and win the fight (Schuett 1997; Wise & Jaeger 1998). This is because they are stronger and has a more competitive advantage compared to the small one. Studies have also found that gender, age and previous experience are correlated with agonistic behaviour (Adamo & Hoy 1995; Pal et al. 1998). Adult male animals are more likely to be aggressive than other groups (Pal et al. 1998). This finding may occur due to the fact that adult males have bigger body size and more fight experiences hence they are more powerful compared to other groups (Schuett 1997). The figure 6.2 below shows the stages of agonistic behaviour along with the cognitive process.

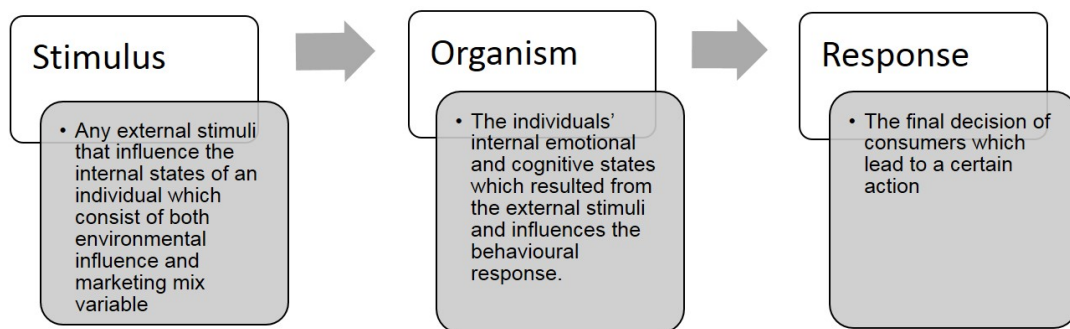
Figure 6.2: Agonistic Behaviour Stages



6.4.6.2 Stimulus-Organism-Response (S-O-R) model

To operationalise the theory in the context of consumer behaviour towards luxury products, the S-O-R model is also applied for the purposes of the current study. Similar to the theory of agonistic behaviour, the S-O-R model consists of three elements to provide a general framework in explaining an individual's action. The three elements are stimulus, organism, and response (Mehrabian & Russell, 1974). Developed by Mehrabian and Russell (1974), the S-O-R model has been widely applied in retail environments (Buckley, 1991; Chang, Eckman & Yan, 2011) and for products with different levels of involvement (Arora, 1982). The S-O-R model has also been adopted as a framework to understand consumers' impulsive purchase behaviour resulted from the scarcity effect (Chang et al., 2011). Figure 3.5 demonstrates the general framework of the S-O-R model.

Figure 6.3: The S-O-R Model



Stimulus (S) is defined as any external stimuli or situation that influences the internal state of an individual and consists of both environmental influences and marketing mix variables (Bagozzi, 1986; Eroglu et al., 2005). This stage, according to the theory of agonistic behaviour, is called the 'threat.' This first stage of the agonistic behaviour, threat, can be argued to align with the stimulus (S) component in the S-O-R model.

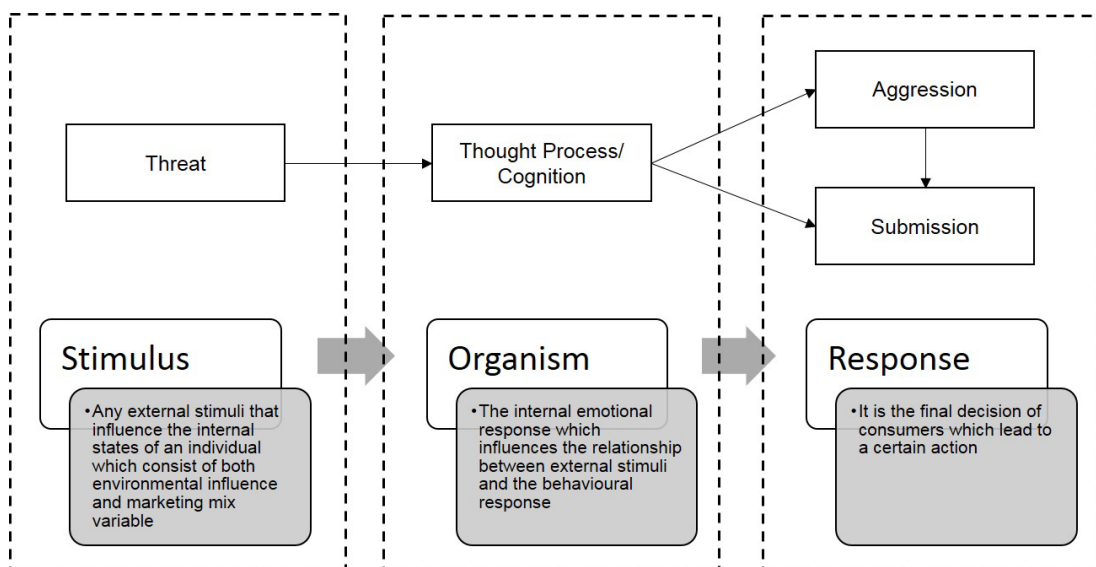
Organism (O) is defined as the individual's emotional and cognitive states which results from a reaction to external stimuli and influences the behavioural response (Bagozzi, 1986). Similarly, according to the theory of agonistic behaviour, the threat of limited resources and other competitors prompt animals to undergo a thought process which determines whether they fight or submit. Therefore, the organism (O)

component of the S-O-R model can be compared to the cognitive process in the theory of agonistic behaviour.

The individual's internal states (O) then leads to behaviour action, which is the response (R). Similarly, in the theory of agonistic behaviour, animals make a final decision whether they will fight or submit following a cognitive process. If both parties choose aggression, they fight until one of them submits. As such, the decision to either be aggressive or submissive behaviour can be equated to the response (R) in the S-O-R model.

For the purposes of this study, the 'stimuli' is operationalised as the threat; the 'organism' is operationalised as the consumer's cognitive process (perception of value); and the 'response' is operationalised as the choice between aggression and submission (purchase intention of either desired/elite brand, alternative brand or neither), as shown in Figure 6.4.

Figure 6.4: S-O-R Model with the Stages of Agonistic Behaviour



The S-O-R model, in relation to the agonistic behaviour theory, is outlined below:

Stimulus

As identified, the 'threat' serves as a stimulus to the individual. Animals perform species-specific behaviours to show superiority to scare the opponents away. In a consumer behaviour context, the threat is not necessarily triggered by the presence of

other consumers, it can also be created by marketers using heuristic scarcity cues (Cialdini, 2009; Gitlin, 2007). Products with heuristic scarcity cues, such as “limited edition” or “nearly sold out” cues, are more likely to be perceived as scarce and highly sought after by consumers (Kristofferson et al., 2016). Therefore, the stimulus is conceptualised as the perceived scarcity and perceived competition.

Perceived Scarcity

Perceived scarcity refers to the perceived or experienced product shortage (Byun & Strenquist, 2012), which can be induced by marketers using supply- and demand-driven scarcity cues. As both of these heuristic scarcity cues signify that the product availability is limited, they are likely to be perceived as scarce. Based on *the psychological reactance theory*, freedom is threatened when the resources are perceived to be scarce. The need to maintain freedom increases desire considerably (Brehm, 1966). Although psychological reactance theory mainly relates to resources that are necessary for survival, previous studies have found a similar behavioural pattern for non-survival resources in resource-rich consumer environments (Kristofferson et al., 2016; Lynn, 1992a, 1992b). Therefore, when consumers are presented with the elite luxury-branded products with heuristic scarcity cues, consumer perceptions of scarcity are expected to be higher as compared to elite luxury-branded product with no scarcity cues (Lynn, 1992; Verhallen, 1982). However, it can be expected that there are no significant differences between the perceived scarcity elicited by supply-driven and demand-driven scarcity cues. As such, the following hypothesis is postulated:

H1. Perceived scarcity is not significantly different in both demand-driven and supply-driven scarcity conditions, but is significantly lower in the control condition.

Perceived Competition

Limited product availability restricts the number of individuals who can obtain the products. Hence, consumers tend to assume that they have to be fast in purchasing products before others (Byun & Mann, 2011), fostering competition between individuals. As previously conceptualised, regardless of the competitors’ visibility, the perception of competition among consumers can be created using heuristic scarcity cues (Aggarwal et al., 2011; Grossman & Medoza, 2003). Supporting this, a study by

Kristofferson et al. (2016) also found that heuristic scarcity cues influence consumers to perceive other buyers as competitive threats. Consumers also tend to be more conscious of the behaviour of other shoppers while shopping and will feel rivalry against others (Byun & Sternquist, 2008; Nichols, 2010). Therefore, the perception of competition is likely to be higher in products with a scarcity cue as compared to products without any scarcity cue. However, it is expected that there will be no significant difference between supply-driven scarcity cue and demand-driven scarcity cue as they both signify limited product availability, outside the control of consumers. As such, the following hypothesis is postulated:

H2. Perceived competition is not significantly different in both demand-driven and supply-driven scarcity conditions, but is significantly lower in the control condition.

Stimulus - Organism

As previously discussed, the thought process in the theory of agonistic behaviour is conceptualised as the 'organism' in the S-O-R model. In essence, this is the stage in which organisms process their internal emotional and cognitive states after they are presented with external stimuli. Likewise, in a consumer context, when presented with a scarce product, consumers are more likely to assess the value of the products to identify the worthiness of the purchase. It is then hypothesised that when a product is seen to be scarce and highly sought after, consumers are more likely to perceive the product as more valuable (Verhallen & Robben, 1994).

Perceived Scarcity → Perceived Value

Luxury brands must maintain their relative rarity value by preventing over-diffusion in the market, which distinguishes luxury brands from non-luxury brands (Burns & Brandy, 2001; Dubois & Paternault, 1995). Scarcity perception has been primarily associated with high quality (Chen & Sun, 2014; We & Hsing, 2006; Wu et al., 2012), exclusiveness (Amaldoss & Jain, 2005; Chen & Sun, 2014; Van Herpen et al., 2009; Park et al., 2008), and attractiveness (Fromkin, 1970; Szybillo, 1975). In line with *the commodity theory*, individuals are more likely to have a greater preference for products which are perceived as scarce in comparison to products which are readily available (Lynn, 1987; Verhallen, 1982). Previous studies have also supported the

notion that products in short supply are more likely to be perceived as more valuable (e.g. Brock, 1968; Cialdini, 1987; Eisend, 2008; Lynn, 1991; Sharma & Alter, 2012; Verhallen & Robben, 1994). As such, the following hypothesis is postulated:

H3. Perceived scarcity has a positive influence on perceived value.

Perceived Competition → Perceived Value

Competitive behaviour is often motivated by the need to achieve and desire to win (Murray, 1938). Competition among shoppers gives a thrill or arousal associated with the sense of achievement derived from the competition for scarce products (Bardhi, 2003; Eroglu et al., 2005; Nichols, 2010). Consumers are then likely to perceive the product as valuable as it creates an enjoyable feeling for the winning party and allows them to gain superiority over rivals (Hibbard, 2000; Nichols & Flint, 2013). This claim is also supported by *the commodity theory* which states that an product should have an initial level of desirability, high level of brand awareness, and be sought after by other consumers to enhance product value (Eisend, 2008; Lynn, 1991). In line with evolutionary psychology, this allows consumers to achieve a superior position or social dominance (Buss, 1995). In a consumption context, individuals can achieve social status by obtaining products which are desirable to other consumers (Veblen, 1899; Nelissen & Meijers, 2011; Nichols, 2010). Previous studies have also confirmed the role of luxury brands consumption in providing approval and favourable treatment in human social interaction (e.g. Hudders et al., 2014; Sundie et al., 2011; Nelissen & Meijers, 2011; Wang & Griskevicius, 2014). Consumers are more likely to perceive luxury-branded products as valuable if the products are perceived to be highly desirable and sought after by others, regardless of the heuristic scarcity cues presented. As such, the following hypothesis is postulated:

H4. Perceived competition has a positive influence on perceived value.

Organism - Response

According to the theory of agonistic behaviour, there are two possible responses, aggression or submission. As highlighted, aggressive behaviour occurs when animals fight in order to obtain scarce resources. Thus, in a consumer context, this can be measured by purchase intention for elite brands. On the other hand, submissive behaviour occurs when animals chooses to avoid the fight and seek alternative

resources. Thus, in a consumer context, this can be measured by purchase intention for alternative brands.

Therefore, the intention to purchase is a representation of aggressive and submissive behaviour. Buying an elite brand is considered as an act of aggression, while choosing neither handbag or buying the alternative brand is seen as an act the submission.

Perceived Value → Purchase Intention

Perceived value represents the customer's assessment of the utility of a product based on perceptions of what is received and what is given (Zeithaml, 1988). If the perceived benefits are more than what the individuals have to pay, then the value is relatively high. Numerous studies have found that high perceived value leads to higher purchase intention (Bakers et al., 2002; Chen & Chang, 2012; Chi, Yeh & Tsai, 2011; Chiang & Jang, 2007; Kalra & Goodstein, 1998; Tarn, 1999) and willingness to pay premium prices (Keller, 1993; Netemeyer et al., 2004). Similarly, in the context of luxury brands, researchers support the view that the value of a product/brand influence both consumer preferences and their willingness to purchase the product/brand (Kalra & Goodstein, 1998; Netemeyer et al., 2004). Vigneron and Johnson (2004) have also observed that consumers who place importance on hedonistic products are more willing to pay a higher price for luxury brands. These results demonstrated that consumers are more likely to purchase the luxury brand if they are perceived to be valuable (Bian & Forsythe, 2012; Hung et al., 2011; Li, Li, & Kambele, 2012; Shukla & Purani, 2012). As such, the following hypothesis is postulated:

H5. Perceived value has a positive influence on purchase intention for the elite brand.

7.4.5.1 Moderation Effect

One of the major factors influencing the decision to be aggressive or submissive is body size and attributes. Animals with large body size and superior body attributes are more likely to be aggressive and win the fight (Schuett, 1997; Wise & Jaeger, 1998). They tend to be stronger and have greater competitive advantage over smaller ones. In a consumption setting characteristics which determine aggressive behaviour and winning results are likely to be the individuals' available resources such as financial, knowledge, and time resources. It is expected that consumers who are wealthier and have the skills and time available are more likely to acquire the elite brands. Self-

efficacy is then conceptualised to represent body size and attributes in human behaviour. The variable self-efficacy is hypothesised to be the moderating variable for the relationship between perceived value and purchase intention.

Self-Efficacy

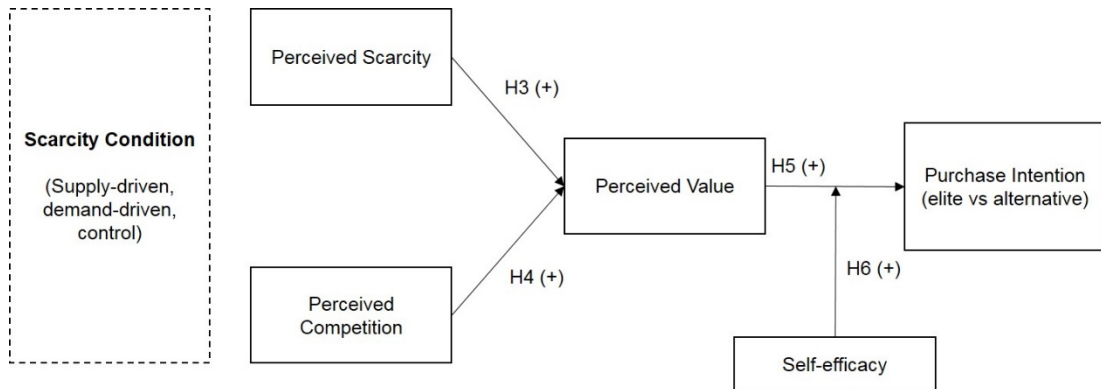
According to *Social Cognitive Theory (SCT)*, individuals should have the ability to make a judgment regarding their capabilities, foresee the possible outcome of multiple circumstances and actions, determine socio-structural opportunities and limitations, and control their behaviour accordingly (Bandura 1986). The greater perceived self-efficacy, the more likely consumers are to set higher goals, be more persistent in their efforts, and be more committed to achieving them (Bandura, 1988; Locke et al., 1984; Luszczynska & Schwarzer, 2005). On the other hand, when individuals doubt their capabilities, they are more likely to be less persistent and willing to settle for less desirable solutions. Research has demonstrated that perceived self-efficacy is a positive predictor of purchase intention in the context of online media (e.g. Luarn & Lin, 2005; Wang, Lin & Luarn, 2006), health communication (Burgoon et al., 2002), corporate social responsibility (e.g. Ali, Rehman & Yilmaz, 2010; Bray et al., 2011; Öberseder et al., 2011), and fashion (e.g. Jin & Kang, 2011; Phau & Teah, 2009).

In this case, since the elite luxury-branded products are scarce (and thus restricted), individuals who have the ability to purchase the scarce products are expected to be more motivated to purchase them instead of alternatives. Hence, self-efficacy is proposed to strengthen the relationship between perceived value and purchase intention. As such, the following hypothesis is postulated:

H6. Self-efficacy strengthens the relationship between perceived value and purchase intention for the elite brand.

The hypotheses drawn previously lead to the portrayal of the proposed research framework for this study (Figure 6.5).

Figure 6.5: The Proposed Framework of Privately Consumed Luxury-branded Products



The summary of the proposed hypotheses are as follow:

- H1** Perceived scarcity is not significantly different in both demand-driven and supply-driven scarcity condition, but is significantly lower in control condition.
- H2** Perceived competition is not significantly different in both demand-driven and supply-driven scarcity condition, but is significantly lower in control condition.
- H3** Perceived scarcity has a positive influence towards perceived value.
- H4** Perceived competition has a positive influence towards perceived value.
- H5** Perceived value has a positive influence towards purchase intention of the elite brand compared to the alternative brand.
- H6** Self-efficacy strengthens the relationship between perceived value and purchase intention of the elite brands.

6.5 METHODOLOGY

6.5.1 Research Design

As the aim of this research was to examine the influence of different scarcity cues on consumers' perception, an experimental approach was adopted to investigate causal relationships between the independent and dependent variables (Kirk, 2012). Respondents were randomly allocated to different conditions in a 3 (scarcity conditions) between-subjects factorial design. The scarcity conditions included demand-driven scarcity, supply-driven scarcity and control conditions.

6.5.2 Sample and Data Collection

This study was conducted on the Australian population, specifically individuals who had purchased luxury-branded products/services. Since this research focuses on luxury-branded products which requires the opinions of actual luxury consumers, a student sample was not deemed appropriate as the average students would not be able to afford luxury branded products. As such, a consumer panel was ultimately preferred (Kapferer & Laurent, 2016). Data was collected using Qualtrics, an online software with panel data facilities. Qualtrics was chosen because the sample parameters can be specified in order to obtain the most accurate respondent profile; in the case of this study, luxury consumers (Pollard 2002).

6.5.3 Product Category and Brand Selection

A pre-test was completed to select the most suitable product categories for the study to ensure that the product chosen was indeed consumed in public view. To identify the ideal product category for public and private products, thirty luxury consumers, 15 females and 15 males, were given a list consisting of 15 fashion product categories (e.g. shoes, watches, perfume, underwear, wallets, etc.) and were asked to assess which categories were consumed publicly (Bearden & Etzel, 1983). To measure the type of the product categories, the respondents had to indicate their agreement with the question, "This is a visible product", on a seven-point scale ranging from 1=totally disagree to 7=totally agree (Gierl & Huettl, 2010). Participants were also asked to rank those product categories to identify which category they purchased most, in which 1 indicated the most frequently and 15 indicated least the frequently purchased product categories.

The undergarment product category was rated highest as privately consumed products which was commonly purchased for both male and female respondents. Supporting this, the undergarment and lingerie sector is also currently booming and estimated to reach €24.18 billion by 2017 and expected to grow in the future (“Fashionbi”, 2018). As such, the undergarment is a suitable product category for this research.

Further, the current study utilised non-fictitious luxury brands (both elite and alternative brands) for ecological validity (Simonson, 1994). However, existing but relatively unknown brands are preferred for this study to avoid any biases due to different brand strengths or levels of brand knowledge. (Till & Busler, 2000). To identify the most suitable brands (both elite and alternative brands) for the study, a second preliminary test was conducted. The pre-test asked respondents to state their familiarity with a list of brands (both elite and alternative brands) for each product category (publicly consumed, privately consumed, and experiential service products); brands with the lowest familiarity ratings were selected. To further ensure low familiarity, it was ensured that brands presented to the respondents during the pre-test did not have flagship stores in Australia.

During the second pre-test, Icebreaker was voted by the respondents as the brand with the lowest familiarity level. Thus, the brand was chosen as the elite brand for the privately consumed luxury branded product. Icebreaker is a premium undergarment brand originating from New Zealand and does not have any flagship stores in Australia ((Icebreaker, 2016). For the alternative brand, Bamboo was the brand with the least familiarity as compared to the other alternative brands presented. Bamboo is an affordable undergarment brand that offers product items similar to Icebreaker, in terms of design and philosophy. As such, Bamboo was deemed suitable option for the alternative brand.

6.5.4 Stimulus Development

The stimulus design was determined by adapting the process employed by Phau and Cheong (2009) through a series of focus groups with young adults. The information and product images for all stimuli were taken from the official company websites of the relevant brands. The stimuli were carefully designed to create a sense of professionalism and to emulate a real advertisement pamphlet while ensuring that the

key content was sufficiently prominent for respondents to fully comprehend the message.

A separate booklet was created for both elite luxury brands and the alternative brand. In addition, a separate booklet for males and females was also created to cater for different product preferences and handbag style across gender. Differentiating the booklet based on gender is extremely crucial because the handbag chosen are gender specific. Hence, gender bias was avoided, and the most accurate response was obtained. A total of 8 versions of a retail pamphlet were produced (3 scarcity conditions with desired brand + 1 mimic brand x 2 genders). To eliminate choice bias due to aesthetic reasons, the product design of both elite and alternative brands is created as similar as possible.

A total of 8 versions of a retail pamphlet were created (3 scarcity conditions with desired brand + 1 mimic brand x 2 gender). For the supply-driven scarcity condition, the phrase “limited edition” was used as it is the most common marketing strategy in communicating scarcity due to low supply (Gierl et al., 2008). For the demand-driven scarcity condition, the phrase “Bestseller” was used as it is the most common phrase used in communicating highly sought out products (Wu & Lee, 2016). For the control condition, the phrase “new arrival” was used to eliminate the perception of scarcity. To further emphasise the scarcity perception to the respondents, additional words and phrases were also added, namely – “highly in demand, almost sold out” and “popular” (demand-driven scarcity) and “supplies are limited” and “unique” (supply-driven scarcity) (Gierl & Huettl, 2010). Product descriptions were also provided and kept consistent across all conditions. A sample of the stimulus employed in this study is presented in Figure 6.6.

Figure 6.6: Sample Stimulus in Survey Instrument – Icebreaker (Limited Edition)

6.5.5 Survey Instrument

Prior to finalising the questionnaires, pilot testing was conducted on luxury consumers to ensure all questions were clear. The survey was structured with care and the items were checked several times to ensure its applicability to the luxury branding context. The measurement used in the study are established scales with Cronbach’s Alpha higher than 0.8, fulfilling the criteria by Hair et al. (2010). The scales were presented in seven-point Likert scales, in which 1 = strongly disagree to 7 = strongly agree. Purchase intention, however, is a continuum scale in which option 1 represents a strong intention to buy the alternative brand, 4 accounts for neither alternative nor desired brand, and 7 accounts for a strong intention to acquire the elite brand. Some of the items were altered to fit the context of the study. The survey also included attention checks throughout the questionnaire to ensure data quality. These attention checks are useful to identify careless respondents and screen them out before analysis are carried out (Maniaci & Rogge, 2014; Schmitt & Stults, 1985).

Screening questions were placed to filter out those who (1) are not luxury brand consumers, (2) have unfavourable attitudes towards the luxury brands, and (3) have

extensive knowledge about the brand. Screened out respondents were immediately directed to the final page and thanked for participating in the survey. Conversely, respondents that met all the criteria set, were directed to the start of the questionnaire.

The questionnaire comprised of four main sections as follows:

- 1 A short video as an introduction to Icebreaker brand was presented in section A. As identified, although all the elite brands chosen were actual elite luxury brands, the chosen brands were unfamiliar. Hence, it is important to ensure that all respondents perceived the elite brand as luxurious and prestigious. To ensure the respondents perceive the elite brand as luxurious, additional screening questions were placed to screen out those who do not perceive the chosen luxury brands as luxurious. Similar to the previous screening questions, Respondents were screened out if they selected anything above 4 = “neither agree or disagree”. Screened out respondents were immediately directed to the final page and thanked for participating in the survey. Conversely, respondents that met all the criteria set, were directed to Section B.
- 2 Section B measured respondents’ perception regarding the stimulus presented. The stimuli of Icebreaker (elite brand) with heuristic scarcity cue chosen at random was presented. After the stimulus, respondents were asked to answer a 5-item perceived scarcity scale adopted from Byun and Sternquist (2012) and 5-item perceived competition scale adopted from Byun and Mann (2011). The section was continued with a 19-item perceived value scale by Sweeney and Soutar (2001) and ended with a 6-item self-efficacy scale by Pedersen (2009).
- 3 In Section C, the stimuli of Bamboo (alternative brand) was presented along with a description to introduce the brand as a non-luxurious alternative brand. Similar to Section A, screening questions to control for brand familiarity was put in place prior to presenting the stimulus. It was then continued with a 5-item purchase intention scale adopted from Dodds et al. (1991).
- 4 Respondents’ demographic information, such as gender, age group, marital status, occupation, current home ownership status, education qualification, annual income, and disposable income were measured in section D.

6.6 DATA ANALYSIS

6.6.1 Sample Profiles

A total of 850 data were collected, but 278 data were discarded. Participants who failed the attention checks, failed the additional screening questions (from the survey instrument Section A and C), or provided a straight-line response were removed from the dataset. Out of 572; 196 respondents for supply-driven scarcity, 175 respondents for control, and 201 respondents for demand-driven scarcity were collected. 305 (53%) respondents are between 35-44 years old, with a majority of female respondent which comprised of male (41%) and female (59%). Most of the subjects were managers (20%) and professionals (35%). A breakdown of the respondents' profile for this study is detailed in Table 6.1

Table 6.1: Respondents Profile

Respondent Characteristic	Percentage			
	Pooled Sample (N=627)	Control condition (N= 211)	Demand-driven condition (N= 166)	Supply-driven condition (N= 250)
Sex				
Male	41.4	47.3	37.3	44.9
Female	59.6	52.7	62.7	55.1
Age				
18 – 21 years	6.2	3.8	9.3	8.2
22 – 34 years	29.7	24.6	34.2	26.1
35 – 44 years	53.3	58.3	51.6	53.1
45 – 54 years	7.4	7.8	2.4	8.2
55 – 70 years	3.4	5.5	2.5	4.4
Education				
Certificate	8.5	11.1	6.6	9.8
Advanced Diploma/ Diploma	20.1	23.2	15.8	22.6
Bachelor Degree	60.3	57.5	62.1	59.2
Graduate Diploma/ Graduate Certificate	4.4	2.2	5.7	3.1
Postgraduate Degree	5.4	4.2	7.1	2.8
Other	1.3	1.8	2.7	2.5
Income (Annual)				
AUD 0 – AUD 40,000	1.1	3.4	0	1.1
AUD 40,001 – AUD 80,000	16.7	11.4	31.5	8.1
AUD 80,001 – AUD 120,000	24.2	28.7	27.4	17.2
AUD 120,001 – AUD 160,000	30.1	33.6	20.1	38.2
AUD 160,001 – AUD 200,000	23.8	16.3	20.6	29.3
AUD 200,000 and above	4.1	6.6	0.4	6.1

6.6.2 Exploratory Factor Analysis (EFA)

For all experimental conditions (demand-driven, supply-driven and control), Exploratory Factor Analysis (EFA) was conducted separately to ascertain the dimensionality of the relevant factors. Since AMOS program will be used for CFA and structural modelling, the factor analysis used the maximum likelihood estimation method with the Oblimin with Kaiser Normalisation rotation method (Costello & Osborne 2005). All loadings for each construct are ensured to be above 0.7 and items were removed if the factor loading was below 0.7 (Hair et al. 2010). Due to poor factor loadings, in the control condition, two items for perceived value and two items for perceived scarcity were removed. In the supply-driven scarcity condition, two items of perceived value (quality) were removed. In the demand-driven scarcity condition, three items of perceived scarcity and three items from perceived value (quality) were removed. The final model for all three experimental conditions revealed $KMO \geq 0.800$, Bartlett's Test of Sphericity = .000, indicating all constructs are unidimensional.

6.6.3 Common Method Bias

CMB effect was then examined for all experimental conditions separately by using the Harman's single-factor testing to control for the CMB influence and verify the outcome of the unrotated solution of the exploratory factor analysis. This test showed that the first-factor variance provide a value of: (1) 24.19 per cent (control condition); (2) 28.06 per cent (supply-driven condition); (3) 22.39 per cent (demand-driven condition). As recommended in the literature, all results accounts less than 50 per cent of the all variables in the model (Baumgartner and Steenkamp, 2001; Craighead et al., 2011; MacKenzie and Podsakoff, 2012). As such, common method bias effect is not present in this study design.

6.6.4 One-Factor Congeneric Models

The eight constructs in the research model were first refined through CFA using one-factor congeneric models with AMOS 25. The eight constructs in the research model included: (1) perceived scarcity; (2) perceived competition; (3) perceived value (social value); (4) perceived value (emotional value); (5) perceived value (monetary value); (6) perceived value (quality value); (7) purchase intention; and (8) self-efficacy.

Initially, most constructs were deemed as unacceptable fit. After modifying the model according to the suggested accommodation indices, all constructs had acceptable goodness-of-fit indices ($\chi^2/df \leq 3.0$, RMSEA $\leq .08$, GFI $\geq .90$, CFI $\geq .90$, NFI $\geq .90$) as suggested by Baumgartner and Homburg (1996). A summary of these goodness-of-fit indices can be seen in Table 6.2 (control condition); Table 6.3 (supply-driven condition); and Table 6.4 (demand-driven condition).

Table 6.2: One-factor Congeneric – Control Condition

Construct	Parameter Estimates	χ^2	df	RMSEA	GFI	CFI	NFI
Perceived scarcity		.000	1	< .001	.999	.999	.999
A is almost out of stock	.817						
There are only limited numbers of A	.934						
A is scarce	.923						
Perceived competition		1.019	1	.012	.995	.999	.995
I am conscious about other customers' behaviour	.788						
I feel like I am competing with other shoppers for A	.967						
Trying to buy this product is going to be a competition	.755						
Perceived value (emotional value)		1.403	3	< .001	.996	.999	.998
It is a product that I enjoy	.805						
It makes me want to use it	.893						
It is a product that I feel relaxed about using	.771						
It makes me feel good	.852						
It gives me pleasure	.824						
Perceived value (quality value)		3.077	2	.064	.989	.996	.988
It has consistent quality	.837						
It is well made	.866						
It has an acceptable standard of quality	.928						
It performs consistently	.711						
Perceived value (social value)		.211	1	< .001	.999	.999	.999
It improves the way I am perceived	.880						
It makes a good impression on other people	.975						
It gives its owner social approval	.877						
Perceived value (monetary value)		.184	2	< .001	.999	.999	.999
It is reasonably priced	.736						
It offers value for money	.885						
It is a good product for the price	.856						
It would be economical	.733						
Purchase Intention		.077	2	< .001	.999	.999	.999
I have a high likelihood of purchasing A	.815						
I intend to buy A	.905						
In near future, I absolutely plan to buy A	.887						
I definitely expect to buy A	.821						
Self-Efficacy		2.026	4	< .001	.994	.999	.996
I am able to purchase A without the help of others	.901						
I can afford to buy A with ease	.893						
I have financial resources required to purchase A	.814						
I have the necessary time to purchase A	.798						
I have the skills and knowledge required to purchase A	.775						

Table 6.3: One-factor Congeneric – Supply-Driven Condition

Construct	Parameter Estimates	χ^2	df	RMSEA	GFI	CFI	NFI
Perceived scarcity		1.060	1	< .001	.995	.999	.997
A is almost out of stock	.814						
There are only limited numbers of A	.921						
A is scarce	.905						
Perceived competition		.123	1	< .001	.999	.999	.999
I am conscious about other customers' behaviour	.832						
I feel like I am competing with other shoppers for A	.962						
I feel like others will get A if I am not fast enough	.878						
Trying to buy this product is going to be a competition	.835						
Perceived value (emotional value)		.758	3	< .001	.998	.999	.999
It is a product that I enjoy	.767						
It makes me want to use it	.762						
It is a product that I feel relaxed about using	.826						
It makes me feel good	.902						
It gives me pleasure	.891						
Perceived value (quality value)		.525	1	< .001	.998	.999	.998
It has consistent quality	.785						
It is well made	.911						
It has an acceptable standard of quality	.910						
Perceived value (social value)		.250	1	< .001	.999	.999	.999
It improves the way I am perceived	.874						
It makes a good impression on other people	.973						
It gives its owner social approval	.897						
Perceived value (monetary value)		2.188	2	.025	.993	.999	.994
It is reasonably priced	.761						
It offers value for money	.912						
It is a good product for the price	.915						
It would be economical	.668						
Purchase intention		1.252	1	.040	.996	.999	.997
I intend to buy A	.868						
I would absolutely consider buying A	.921						
In near future, I absolutely plan to buy A	.744						
I definitely expect to buy A	.711						
Self-Efficacy		3.591	4	< .001	.991	.999	.990
I am able to purchase A without the help of others	.847						
I can afford to buy A with ease	.778						
I have financial resources required to purchase A	.704						
I have the necessary time to purchase A	.740						
I have the skills and knowledge required to purchase A	.779						

Table 6.4: One-factor Congeneric – Demand-Driven Condition

Construct	Parameter Estimates	χ^2	df	RMSEA	GFI	CFI	NFI
Perceived scarcity		1.173	1	.034	.995	.999	.996
A is almost out of stock	.814						
There are only limited numbers of A	.921						
A is scarce	.905						
Perceived competition		1.842	2	< .001	.994	.999	.994
I feel competition with other customers	.804						
I am conscious about other customers' behaviour	.794						
I feel like I am competing with other shoppers for A	.925						
Trying to buy this product is going to be a competition	.762						
Perceived value (emotional value)		.451	3	< .001	.999	.999	.999
It is a product that I enjoy	.819						
It makes me want to use it	.830						
It is a product that I feel relaxed about using	.787						
It makes me feel good	.870						
It gives me pleasure	.717						
Perceived value (quality value)		.421	1	< .001	.998	.999	.998
It has consistent quality	.810						
It is well made	.948						
It has an acceptable standard of quality	.817						
Perceived value (social value)		.108	1	< .001	.999	.999	.999
It improves the way I am perceived	.805						
It makes a good impression on other people	.959						
It gives its owner social approval	.839						
Perceived value (monetary value)		.175	1	< .001	.999	.999	.999
It is reasonably priced	.736						
It offers value for money	.922						
It is a good product for the price	.780						
It would be economical	.664						
Purchase intention		5.360	2	.037	.982	.992	.987
I have a high likelihood of purchasing A	.773						
I intend to buy A	.890						
In near future, I absolutely plan to buy A	.935						
I definitely expect to buy A	.809						
Self-Efficacy		4.057	4	.010	.989	.999	.990
I can afford to buy A with ease	.877						
I am able to purchase A without the help of others	.841						
I have the necessary time to purchase A	.734						
I have the skills and knowledge required to purchase A	.723						
I have financial resources required to purchase A	.708						

6.6.5 Measurement Model

The maximum likelihood estimation method was used to analyse the factor loading across the three different scarcity conditions (supply-driven, demand-driven, and control).

6.6.5.1 Perceived Value

The different dimensions of perceived value (emotional, social, quality, and monetary) are transformed into composite variables for path analysis. Prior to creating a composite variable and analysing path analysis using grouping variable (scarcity condition), configural and metric invariance must be tested to ensure that the factor structure and loadings are sufficiently equivalent across groups (Steenkamp & Baumgartner 1998; Ariely & Davidov 2012).

To test configural invariance, a measurement model for the perceived value of all three scarcity conditions was tested together and freely estimated to ensure it achieves fit (Horn & Mcardle 1992; Vandenberg & Lance 2000). Using only the items remained after one-factor congeneric analysis, an analysis was run to test model fit between the three conditions. Initially, the model was deemed unfit, and the modification indices were examined for possible solutions. A model fit was finally achieved after necessary changes were made. A summary of the factor loading for each construct and group along with the goodness-of-fit indices is available in Table 6.5.

Table 6.5: Measurement Model – Perceived Value for all Groups

Construct	Parameter Estimates		
	Control	Supply	Demand
Perceived value (emotional value)			
It is a product that I enjoy	.731	.776	.726
It makes me feel good	.939	.901	.986
It gives me pleasure	.922	.889	.847
Perceived value (quality value)			
It is well made	.976	.895	.934
It has an acceptable standard of quality	.827	.926	.839
Perceived value (social value)			
It improves the way I am perceived	.886	.879	.815
It makes a good impression on other people	.973	.961	.938
It will give its owner social approval	.874	.901	.857
Perceived value (monetary value)			
It offers value for money	.880	.770	.735
It is a good product for the price	.861	.913	.905
It would be economical	.732	.909	.800
$\chi^2 = 140.030$ df = 114 RMSEA = .023 GFI = .946 CFI = .992 NFI = .960			

The next step is to test for metrics invariance to ensure the factor loadings for each item between groups are not significantly different. Following the suggestion of Kline (2005), the test compared constrained the factor loading of each item to its underlying construct and then compared the constrained model with a base model without loading constraints. The three models were not significantly different ($\Delta\chi^2 = 30.47$, $df = 22$, $p = .107$), indicating that there is no factor loading invariance across the three conditions. Since the measurement model showed perceived value passed configural and metric invariance, the items for each dimension of perceived value were aggregated, resulting in a four-item scale in which each item represents one perceived value dimension.

6.6.5.2 Full Measurement Model

A full measurement model was tested to ensure the model fit for all factors. Since the measurement model does not revealed a good fit, measurement re-specification was performed (Hair et al 1988). After re-specification, overall goodness-of-fit indices were satisfactory [$\chi^2 = 269.188$, $df = 240$, $p = .095$, $RMSEA = .014$, $RMR = .101$ $AGFI = .918$ $CFI = .993$]. The model fit indices for all the groups are presented in Table 6.6.

Table 6.6: Full Measurement Model for All Groups

Construct	Parameter Estimates		
	Control	Supply	Demand
Perceived scarcity			
A is almost out of stock	.819	.814	.843
There are only limited numbers of A	.935	.936	.911
A is scarce	.921	.890	.855
Perceived competition			
I feel competition with other customers	.819	.921	.826
I am conscious about other customers' behaviour	.860	.908	.795
I feel like I am competing with other shoppers for A	.907	.882	.907
Perceived value			
Social value	.690	.613	.652
Emotional value	.949	.840	.778
Quality value	.643	.723	.670
Monetary value	.667	.603	.625
Purchase intention			
I intend to buy A	.869	.802	.750
In near future, I absolutely plan to buy A	.908	.783	.942
I definitely expect to buy A	.925	.842	.819
Self-efficacy			
I am able to purchase A without the help of others	.854	.802	.742
I have the necessary time to purchase A	.834	.801	.813
I have the skills and knowledge required to purchase A	.832	.754	.846
I can afford to buy A with ease	.834	.748	.825
I have the financial resources required to purchase A	.804	.664	.698
$\chi^2 = 417.655$ df = 375 RMSEA = .016 GFI = .907 CFI = .990 NFI = .908			

6.6.5.3 Gender Stimulus

As discussed in the methodology section, the product stimulus for both males and females were differentiated to capture both perspectives and remove gender biases. Hence, after the full measurement model has been conducted, the model was tested for mean differences in terms of genders. It is crucial to ensure there is no significant difference in the results across gender in order to confirm the effectiveness of the stimulus. Following the procedure above to test configural and metric invariance, three measurement models (supply-driven, demand-driven, and control) with two gender groups (male and female) were measured. All three models indicated that there were no significant differences across gender [supply-driven: $\Delta\chi^2 = 29.712$, $df = 58$, $p = .178$; demand-driven: $\Delta\chi^2 = 21.458$, $df = 58$, $p = .211$; control: $\Delta\chi^2 = 23.899$, $df = 58$, $p = .195$], which concluded the effectiveness of the stimulus across genders.

6.6.5.4 Validity and Reliability

The analysis calculated convergent validity and reliability of the measurement model through average variance extracted (AVE) and composite reliability (CR) (Fornell & Larcker, 1981). After analysis, all the composite reliabilities were higher than 0.70, which indicated an acceptable level of reliabilities (Hair et al. 2010). The AVE of each measure also indicated acceptable internal validity as all measures were larger than 0.5 (Hair et al 2010).

To measure discriminant validity, the square root of AVEs should be higher than any inter-construct correlations to prove each construct has more error-free variance than variance shared with other constructs. After analysis, all AVEs were greater than SIC, demonstrating acceptable discriminant validity between constructs. It signifies that there is no threat from multicollinearity among the constructs. Table 6.7 showed the measurement model – Reliability, Convergent Validity, and Discriminant Validity of all three scarcity conditions.

Table 6.7: Measurement Results – Reliability, Convergent Validity and Discriminant Validity

	CR	AVE	MSV	MAXR (H)	PURCHASE	SCARCITY	COMP	VALUE	SELF_EFF
PURCHASE	0.928	0.812	0.075	0.932	0.901				
SCARCITY	0.922	0.798	0.075	0.936	-0.273	0.893			
COMP	0.897	0.744	0.183	0.905	-0.003	0.224	0.863		
VALUE	0.720	0.416	0.183	0.910	0.162	0.004	0.428	0.645	
SELF_EFF	0.918	0.692	0.021	0.919	0.103	-0.145	-0.052	-0.055	0.832

Square root of AVE
 Inter-construct Correlation

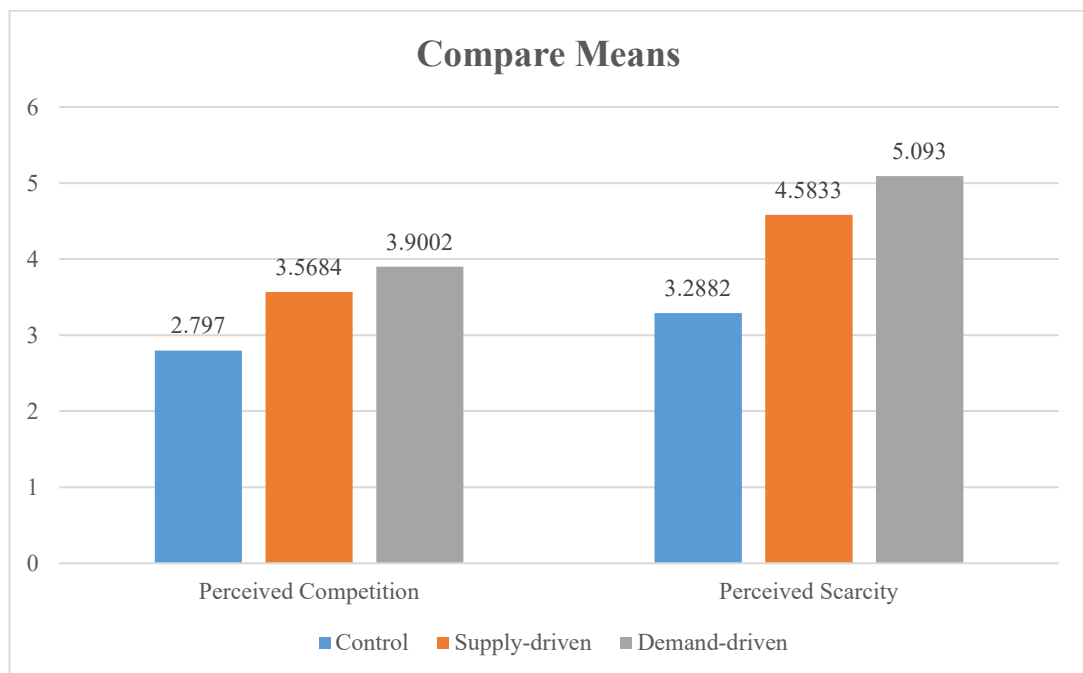
6.6.6 Hypothesis Testing

6.6.5.1 Hypothesis Testing – H1 and H2

Hypotheses H1 and H2 are aimed at addressing RQ1 – to determine the strength of the various scarcity cues (demand-driven, supply-driven and control condition) on perceived scarcity and perceived competition.

To test hypotheses H1 and H2, a one-way between-subjects ANOVA was conducted to measure the significant difference of perceived scarcity and perceived competition in high demand, low supply, and no scarcity cue conditions. A composite variable was created from the remaining items of perceived scarcity and perceived competition after CFA reduction. The composite variables were calculated through SPSS by taking into account that each item has different factor loading. Figure 6.7 showed the results of both perceived scarcity and competition.

Figure 6.7: Compare Means – Perceived Scarcity and Perceived Competition



H1. *Perceived scarcity is not significantly different in both demand-driven and supply-driven scarcity conditions, but is significantly lower in the control condition.*

The results revealed that there is a significant effect of the different scarcity cue on perceived scarcity at the $p < 0.05$ level for the three conditions [$F(2,569) = 64.091$, $p < .001$]. Post Hoc comparisons using the Bonferroni test indicated that the mean score

for no scarcity cue conditions ($M = 3.29$, $SD = 1.32$) was significantly lower than the high-demand scarcity cue and low-supply scarcity cue. However, the high-demand scarcity cue ($M = 5.09$, $SD = 1.44$) was significantly higher than the low-supply scarcity cue ($M = 4.58$, $SD = 1.34$). Therefore, H1 is partially supported

H2. *Perceived competition is not significantly different in both demand-driven and supply-driven scarcity conditions, but is significantly lower in the control condition.*

The results revealed that there was a significant effect of the different scarcity cue on perceived competition at the $p < 0.05$ level for the three conditions [$F(2,569) = 20.570$, $p < .001$]. Post Hoc comparisons using the Bonferroni test indicated that the mean score for the no scarcity cue condition ($M = 2.8$, $SD = 1.33$) was significantly different than the high-demand scarcity cue ($M = 3.90$, $SD = 1.45$) and low-supply scarcity cue ($M = 3.57$, $SD = 1.50$). However, high demand scarcity cue condition did not significantly differ from the low-supply scarcity cue. The results of the hypothesis testing H1 and H2 for all scarcity groups are summarised in Table 6.8.

Table 6.8: H1 and H2 – Standardised Path Coefficients

Hypothesis	Cond	Cond	Mean Difference	Sig.	Supported/ Not Supported
H1. Perceived scarcity is not significantly different in both demand-driven and supply-driven scarcity conditions, but is significantly lower in control condition.	Control	Limited Edition	-1.295	< .001	Partially Supported
	Control	Nearly Sold Out	-1.804	< .001	
	Limited Edition	Nearly Sold Out	-0.509	.004	
H2. Perceived competition is not significantly different in both demand-driven and supply-driven scarcity conditions, but is significantly lower in control condition.	Control	Limited Edition	-0.771	< .001	Supported
	Control	Nearly Sold Out	-1.103	< .001	
	Limited Edition	Nearly Sold Out	-0.332	.150	

6.6.5.2 Hypothesis Testing – H3 to H6

Hypotheses H3 to H5 are aimed at addressing RO2 - to evaluate consumers' perceived competition and scarcity towards various scarcity cues and how it influences perceived value and purchase intention in privately consumed luxury-branded product context.

Hypotheses H6 is aimed at addressing RO3 – to examine the role of self-efficacy in moderating the relationship between perceived value and purchase intention. To perform interaction analysis, the variables were mean-centred before creating the interaction term to reduce the potential problem of multicollinearity (Aiken & West 1991; Balaji et al. 2016). The correlation between perceived value, self-efficacy and the interaction term were also freely estimated because they were assumed to be related in this study.

To test hypotheses H3 to H6, a structural model was analysed in AMOS 25. This study adopted the four-step procedure by Jap and Anderson (2003).

Step One - Single-group Estimation

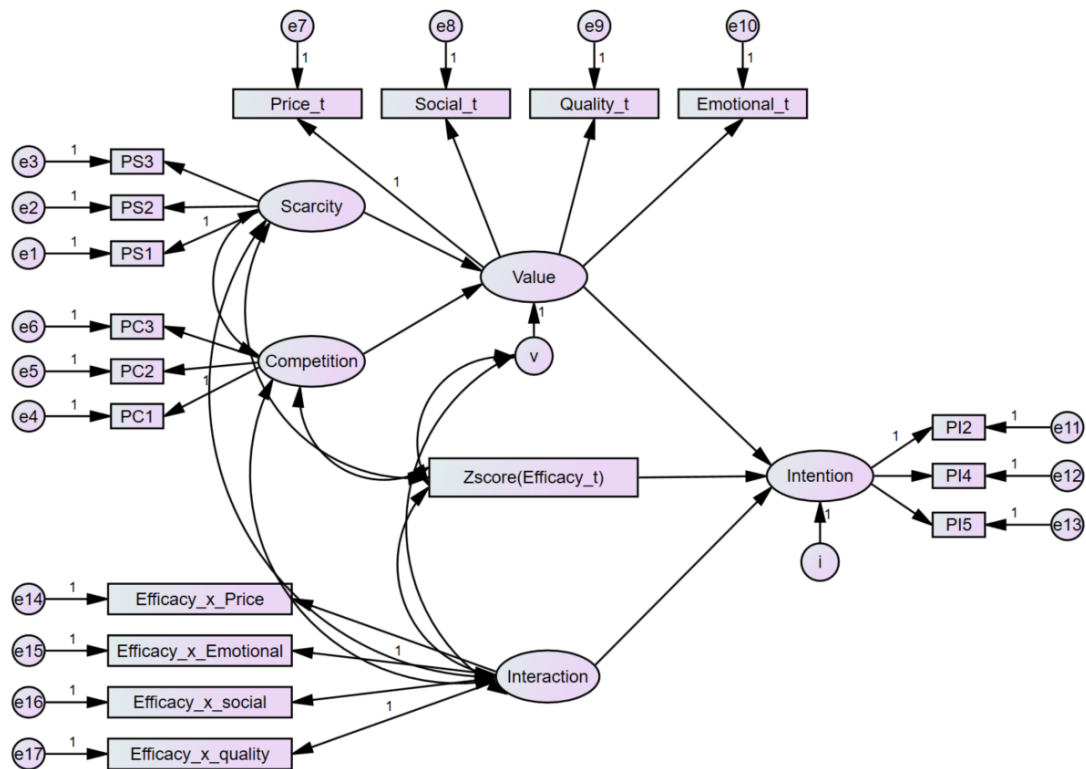
The first step is to run the single group models for the three scarcity conditions (demand-driven, supply-driven, control) separately to evaluate the extent to which the model was able to account for covariance matrix (Zhan & He, 2012). Correlations between the independent variables were freely estimated because they were assumed to be related in this study (Zhan & He, 2012). For the supply-driven condition, the model had a Chi-square of 69.281 (df = 51, p = .054), with a CFI of .983 and TLI of .978. The RMSEA was .038. For the control condition, the model had a Chi-square of 61.501 (df = 51, p = .149), with a CFI of .991 and TLI of .988. The RMSEA was .031. For the demand-driven condition, the model had a Chi-square of 34.230 (df = 51, p = .966) with a CFI of .999 and TLI of .999. The RMSEA was < .001. Taken together, these results suggest that the structural model accounted well for the covariance structure in both groups.

Step Two – Two-Group Estimation

In the next step, the analysis estimated two models in the two-group estimation process. The first process is to construct a baseline model, in which the structural

model was simultaneously estimated for all scarcity groups, and all parameters were freely estimated across the groups. This model had a Chi-square of 207.395 (df = 183, $p = .104$), with a CFI of .992 and a TLI of .989. The RMSEA was .018. Thus, the three-group model provided a satisfactory fit for the data. Figure 6.8 showed the model fit indices of the three-group model.

Figure 6.8: Structural Model Results – All Groups



Chi Square = 207.395 d.f = 183 $p = .104$ RMSEA = .018 CFI = .992

The second process constrained all the gamma coefficients to be equal across all groups to ensure there is no parameter difference between the groups. In this process, the baseline model is compared to the constrained model and the chi-squares difference – the likelihood ratio (LR) – tested the null hypothesis that the parameters were equivalent. If the parameters across groups are not significantly different, there is no potential interaction effect across groups. Since there are three groups in this study, three different analysis (two groups per each analysis) was done to test the equivalent of parameters. In this study, the LR test between control and demand-driven was 1.69 (df = 3, $p > .05$); between supply-driven and demand-driven was 4.481 (df = 3, $p > .05$); suggesting that the gamma coefficients were the same across groups. However,

the analysis showed there is a significant difference in the gamma coefficients between control and supply-driven scarcity condition (LR = 7.485, df = 3, $p \leq .05$). Thus, the analysis proceeded to the next step.

Step Three – Individual Path Estimation

Step three aims to identify which relationship is moderated by the scarcity condition between control and supply-driven scarcity group. The analysis tested three models, in which one specific gamma coefficient was constrained to be equal. The three constrained models are then compared to the baseline model to find the path that offers significantly different parameter. After analysis, the result showed that the gamma coefficient between perceived value to purchase intention was significantly different from the baseline model (LR= 0.342, $p \geq 0.05$). The relationship between perceived value and purchase intention is stronger in supply-driven scarcity cue as compared to the control condition.

Step Four – Final Revised Model

In the final model, the non-significantly different paths were constrained to be equal across groups, as the parameters do not interact with each other. The revised model is then used to test hypothesis H3 to H5 proposed in this study.

H3. Perceived scarcity has a positive influence on perceived value.

The results showed that perceived scarcity has no significant influence on perceived value in all scarcity conditions (demand-driven $\beta = -.019$, $p \geq .05$; supply-driven $\beta = .080$, $p \geq .05$; control condition $\beta = -.103$, $p \geq .05$), rejecting H3.

H4. Perceived competition has a positive influence on perceived value.

The results also showed that perceived competition has positive and significant influence in all scarcity conditions (Demand-driven: $\beta = .375$, $p \leq .05$; Supply-driven: $\beta = .518$, $p \leq .001$; Control: $\beta = .453$, $p \leq .001$), supporting H4.

H5. Perceived value has a positive influence on purchase intention for the elite brand.

H5 is partially supported as the analysis showed that perceived value has positive and significant influence to purchase intention in supply-driven and demand-driven scarcity conditions (Demand-driven: $\beta = .259$, $p \leq .05$; Supply-driven: $\beta = .556$, $p \leq$

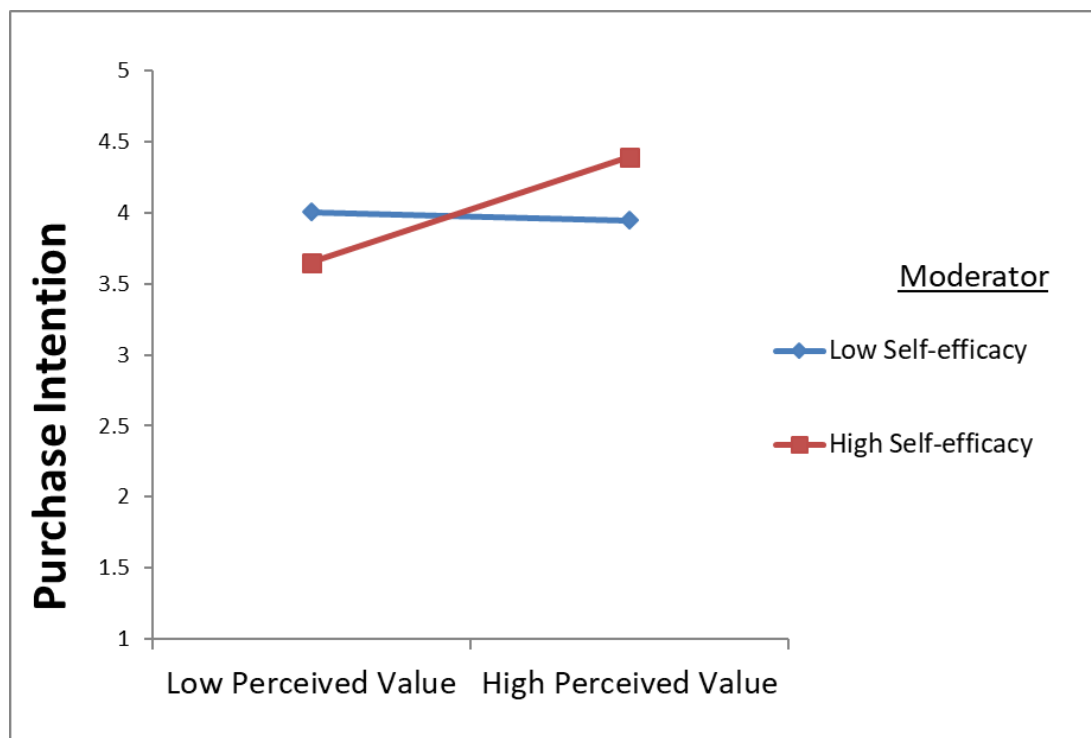
.001). Surprisingly, there was no significant relationship between perceived value and purchase intention in the control condition ($\beta = .172, p \geq .05$).

H6. *Self-efficacy strengthens the relationship between perceived value and purchase intention for the elite brand.*

The results showed that self-efficacy did not moderate the relationship between perceived value and purchase intention of the desired brands in both demand driven ($\beta = -.061, p \geq .05$) and control condition ($\beta = .058, p \geq .05$). Self-efficacy moderated the relationship between perceived value and purchase intention of the desired brands only in the supply-driven scarcity condition. Therefore, H6 is partially supported.

As presented in Figure 6.9 the results showed moderating effect of perceived value and self-efficacy on purchase intention (interaction term $\beta = .180, p \geq .05$) in supply-driven scarcity condition.

Figure 6.9: Moderating Role of Self-efficacy on Purchase Intention – Supply-Driven Condition



On the other hand, there was no moderating effect of perceived value and self-efficacy on purchase intention in the demand-driven condition (interaction term $\beta = -.007$, $p \geq .05$) and control (interaction term $\beta = -.007$, $p \geq .05$). The results of the hypothesis testing H3 to H6 for all scarcity groups are summarised in Table 6.9.

Table 6.9: H3 to H6 – Standardised Path Coefficients

Hypothesis Structural Path	Supply-Driven		Control		Demand-Driven		Supported/Not Supported
	Standardised coefficient	SE	Standardised coefficient	SE	Standardised coefficient	SE	
H3. Perceived scarcity → Perceived value	.080	.040	-.103	.047	-.019	.031	Not Supported
H4. Perceived competition → Perceived value	.518***	.039	.453***	.057	.375***	.040	Supported
H5. Perceived value → Purchase intention	.556***	.341	.172	.213	.259***	.285	Partially Supported
H6. Self-efficacy strengthens the relationship between perceived value and purchase intention of the elite brands.							Partially Supported
Perceived value → Purchase intention	.556***	.341	.172	.213	.259***	.285	
Self-efficacy → Purchase intention	.024	.094	.130	.107	.043	.740	
Interaction → Purchase intention	.180***	.179	.058	.169	-.061	.443	

6.7 DISCUSSION

H1 investigated the relative effects of various scarcity cue conditions (supply-driven, demand-driven, and control) to perceived scarcity. It was proposed that scarcity perception is not significantly different in supply- and demand-driven scarcity cue conditions, but is significantly lower in the control condition. In line with the hypothesis, there was a significant difference in the perceived scarcity between the control condition and both scarcity cue conditions (supply-driven and demand-driven), in which the perceived scarcity in supply- and demand-driven scarcity cue conditions were significantly higher than in the control condition. However, the perceived scarcity in demand-driven scarcity cue condition is significantly higher than the supply-driven scarcity cue condition. Therefore, the hypothesis was partially supported.

The result from **H1** may be caused due to the consumers' skepticism towards advertising claims (Obermiller & Spangenberg, 1998; Wei et al., 2008; Yeo & Park, 2009). Since the nature of product shortage due to supply-driven scarcity is artificial, companies have full control over the production of limited edition products. Luxury brand companies must produce enough items to yield profit. For instance, Bottega Veneta produces 500 pieces of its limited edition Cabat tote handbag annually; each bag comes with a unique unit number engraved onto the name plate ("Bagaddicts Anonymous", 2018), which is considered to be relatively abundant for a limited edition. In contrast, for the demand-driven scarcity, scarcity is outside of the control for both the luxury brand and consumers. Thus, consumers are more likely perceive the scarcity as more authentic and are likely to be prompted to purchase the product.

H2 examined the relative effects of various scarcity cue conditions (supply-driven, demand-driven, and control) to perceived competition. The result showed that perceived competition is not significantly different in luxury brands with scarcity cue conditions (supply-driven and demand-driven) but is significantly higher to luxury brands with no scarcity cues. **H2** was supported. This is in line with the previous literature, which stated that both limited availabilities due to high demand and restricted supply garners more favourable consumer preferences, which in turn will lead to high perceived competition (e.g. Cialdini, 2009; Verhallen & Robben, 1994).

H3 investigated the relationship between perceived scarcity and perceived value. It was hypothesised that perceived scarcity has a positive influence on perceived value. However, the result showed that there is no significant relationship between perceived scarcity and perceived value in all scarcity conditions. Hence, **H3** was not supported. **H4**, on the other hand, examined the influence of perceived competition towards perceived value. In all scarcity conditions, perceived competition has a positive influence on perceived value. Therefore, **H4** was supported.

The findings from **H3** and **H4** demonstrated that the perception of scarcity does not influence value, but the perception of competition does. The bandwagon effect was evident in this study as consumers perceive a product which is highly sought after as a superior option (Caminal & Vives, 1996; Van Herpen et al., 2009). As stated by Cialdini (2009), consumers desire products, not only when they are scarce, but when they are in competition for it. Acquiring a product that is wanted by many other consumers provides a satisfying feeling and a sense of accomplishment for the consumer; hence, it is perceived to be more valuable (Nelissen & Meijers, 2011; Phau & Prendergast, 2000).

H5 tested the influence of perceived value towards purchase intention of the desired brand. It was proposed that perceived value has a positive influence on purchase intention in all scarcity conditions. In line with the hypothesis, perceived value positively influences purchase intention in both supply- and demand-driven scarcity cue conditions. However, in the control condition, a significant relationship was not found between perceived value and purchase intention. Hence, **H5** was only partially supported. As previously identified, products which are scarce due to high demand are often perceived as high quality and consumers are more likely to associate themselves with other buyers (Gierl & Huettl, 2010), while products which are scarce due to supply are likely to be perceived as unique, distinct, and novel (Szybillo, 1975). Thus, both scarcity conditions, can be expected to elicit perceived value and intention to purchase (Worchel et al., 1975). However, products without scarcity cues attached are unable to indicate quality and uniqueness compared to those that do. Although consumers may perceive the products as possessing value, they are more likely to choose alternative brands which are generally more affordable and accessible.

H6 investigated the role of self-efficacy as the moderating role between perceived value and purchase intention. It was hypothesised that self-efficacy strengthened the relationship between perceived value and purchase intention of elite brand. The findings showed that the hypothesis was partially supported. Only in supply-driven scarcity condition, self-efficacy strengthened the relationship between perceived value and purchase intention. Consumers with greater self-efficacy (e.g. financial ability, knowledge, etc.) are willing to sacrifice more money to purchase products presented with supply-driven scarcity cues as compared to products presented with demand-driven scarcity cues.

This result revealed that supply-driven scarcity cue is an effective promotion strategy for privately consumed luxury-branded products, contradicting with previous literature by Gierl and Huettl (2010). Since Gierl and Huettl (2010) conducted the study in non-luxury-brand products, this result further confirms the importance of differentiating luxury-branded and non-luxury-branded products and to not assuming the two are the same. As previously identified, luxury brands reflect the taste of elites (Kapferer, 2014) which are desired in order to achieve personal reward and fulfilment rather than functional needs (Vigneron & Johnson, 2004). Especially for limited edition luxury-branded products in which the products are scarce in an absolute sense (while demand-driven scarcity cue are relatively scarce at one particular location or points at time), purchasing limited edition luxury-branded products allow them to exercise their need for uniqueness and self-concept; allowing them to achieve personal gratification. Although privately consumed luxury-branded products are used out of public view, personal related benefits (e.g. perceived hedonism and extended-self), quality, and craftsmanship are still clearly evident in the limited edition luxury-branded products. As such, supply-driven scarcity cue conditions are effective promotion strategies for privately consumed luxury branded products. This finding also showed that despite the insignificant relationship between perceived scarcity and perceived value (**H3**), scarcity cues is still essential for privately consumed luxury-branded products.

6.8 CONCLUSION

This study contributes in several ways to the body of literature.

6.8.1 Theoretical Contribution

Theoretically, this study investigated the effect of heuristic scarcity cues towards consumer perception and purchase behaviour in the context of privately consumed luxury-branded products. Despite substantial research in the context of publicly consumed luxury-branded products, the privately consumed luxury-branded products have been underexplored (Hume & Mills, 2013) and the two are often assumed to be the same. This study used the developed framework (as discussed in Chapter Five) and applied it in privately consumed luxury-branded products in order to validate and generalise the framework in different product categories. Similar to the result in Chapter Five, perceived competition and self-efficacy contributes significantly to perceived value and purchase intention. Thus, these variables should not be ignored.

6.8.2 Methodological Contribution

Methodologically, this study selected non-fictitious brands as the stimuli to measure purchase intention for both elite and alternative brands in order to increase the ecological validity. To emulate a real-life scenario, the stimuli were also created as authentic as possible to replicate the official luxury brand communication materials. Pre-tests were also conducted in order to confirm the realism of the stimuli prior to data collection.

This study also acknowledged the different preferences and choices across gender, thus, the stimuli for both male and female respondents were differentiated to cater both perspective and remove gender biases. This research also demonstrated no significant difference in terms of the results between the two genders, indicating that the stimulus differentiation based on gender is effective for testing the conceptual model.

Additionally, the intention to purchase was presented in a continuum scale in which option 1 represented a strong intention to buy the alternative brand, 4 represented neither alternative nor elite brand, and 7 represented a strong intention to buy the elite brand. The alternative-elite continuum approach may serve as a paradigm shift in approaching the purchase intention scale. Unlike previous studies which only measure

purchase intention for one product, a continuum scale highlights a more accurate idea of intention to purchase a specific product relative to its alternative(s).

6.8.3 Managerial Contribution

Managerially, the findings provided insights and recommendation for luxury brand companies as to how luxury branding companies should manage their branding strategies for privately consumed luxury-branded products.

Although privately consumed luxury-branded products are generally used or displayed out of public view, the illusion of scarcity and exclusivity remains essential for consumers. As identified in the literature, regardless of where it is being consumed (public or private), the inconspicuous benefits, such as the quality of the product (Vigneron & Johnson, 1999; Beverland, 2006) and self-directed pleasure (Silverstein & Fiske, 2013; Tsai, 2005) are still relevant and important to consumers. As previously discussed, consumers purchase luxury-branded products in order to feel a sense of luxury, even with affordable luxuries (Kapferer, 2012). Furthermore, privately consumed products usually are purchased by individuals as it is in tune with their self-concepts and identity (Sirgy et al., 1997; Hume & Mills, 2013). For instance, Hume and Mills (2013) found that the purchase of sexy luxury brand lingerie is a high involvement purchase that is correlated with a women's strong self-image and self-esteem. Rather than to display status to others, the consumption is more for oneself (e.g. luxury for self-gratification and self-reward). Therefore, if the products are perceived to be too popular owned, it will portray conformity, instead of self-identity.

There are different strategies that can be implemented to build the perception of scarcity and rarity. Luxury brand companies should control their distribution channel to improve its prestige and attraction (Kapferer, 2012). For instance, Louis Vuitton does not distribute their fragrance anywhere, including the usual mass hubs of airports, but exclusively through their own stores (Armstrong, 2016). Another strategy that can be implemented is that luxury brands should only promote their most expensive product range and the limited-edition collections (Kapferer, 2012). As discussed, privately consumed luxury-branded products are generally offered at lower price point as compared to publicly consumed products. By only promoting their expensive product range and limited-edition line, the public (including the non-luxury consumers) will perceive the products as luxurious indeed and it also discourage the

masses to purchase the products which may dilute the brand image. Moreover, luxury brand companies may also offer personalised one-of-a-kind item that truly reflects their customer self-concept. Le Labo, a luxury perfume brand based in New York City, hand-blend each of their perfume according to the specifications by the consumers. Every Le Labo perfume is unique, creating a 'just-for-me' feeling for their consumers.

In addition, the significant relationship between perceived competition and value has emphasised the importance of brand desirability to the success of luxury brands. As discussed in the literature review, luxury brands are desirable due to its emotional and symbolic meaning that become a source of sensual pleasure that cannot be reduced to mere functional quality (Kapferer, 1998). To increase brand desirability, luxury brands should emphasise and communicate their brand personality and persona to consumers, which is a suitable strategy for privately consumed luxury-branded products. For example, Chanel brand identity has been strongly associated with the brand founder Gabriel Coco Chanel. The ambition and vision of Gabriel Chanel in providing elegance and precision through the use of Chanel product lines are the reflection of beliefs associated with the brand (Kapferer, 2014). For every Chanel customers, the brand offer has some meaning and character, which explain why it is known as a top-of-the-mind brand (Alston, 2014).

6.8.4 Limitations and Future Research Directions

Despite the contributions of this study, there are a number of limitations to the study. The following are the details:

1. The study focused on Australian consumers. Australian consumers may have different cultural backgrounds, preferences and attitudes making it difficult for the results of this study to be generalised to other consumers from other countries. Future studies could replicate the study with luxury consumers from different cultural backgrounds in different countries to test and confirm the findings of this study.
2. The current research only applied the developed theoretical framework in a luxury brands context. Future studies are able to apply the framework for different product categories, including non-luxury products. Since this research used existing but rather unfamiliar brands, future studies could use familiar brands to examine the suitability of the framework.

3. The aggressive and submissive behaviour is only measured through a proxy (purchase intention), instead of the actual purchase behaviour. Hence, the current study may not capture the actual aggressive and submissive behaviour in luxury consumption. As identified, aggressive and submissive behaviour have a different level of intensity. Future studies should consider monitoring the luxury consumers' behaviour in real time to identify the specific behaviour of aggression and submission. An auction like simulation may also be conducted in future studies to provide a more accurate measurement for both aggressive and submissive behaviour.
4. The scale items for perceived scarcity only measured the scarcity perception within the store (products that are relatively scarce at one particular location or point in time but may not be scarce at other locations or points in time) (Van Herpen et al., 2009). Perceived scarcity was not measured in an absolute sense, in which the number of products in a particular market situation is limited (Van Herpen et al., 2009). Given that there are now numerous channels through which products can be obtained, this needs to be addressed in future studies.
5. Some variables are not taken into account, such as personality factor (self-esteem, status consumption, the need for uniqueness, etc.), opinion leadership, the presence of an audience, etc. Future studies should consider including moderators that may influence consumers' decision in performing the aggressive or submissive behaviour in luxury branding context.
6. This study only focuses only on two scarcity conditions (supply-driven and demand-driven scarcity cues), luxury brand industry, and privately consumed luxury-branded product (underwear). Future studies should look at time-restricted scarcity cues and different industries and product categories.

CHAPTER SEVEN (STUDY THREE)

THE CONSUMER'S DILEMMA: HOW DOES AGONISTIC BEHAVIOUR AFFECT CHOICE OF LUXURY FINE DINING

7.1 CHAPTER INTRODUCTION

Following Chapters Five and Six, this chapter is formatted as a stand-alone journal article structure with the aim to validate the model developed in Chapter Five and generalise the study to a different product category. This chapter attempts to identify the role of heuristic scarcity cues in the context of the service industry, specifically luxury fine-dining restaurants. Additional moderators, opinion leadership and seeking, were also included to investigate their influence on purchase intention. This chapter shows a clear record of the analyses conducted in Study Three and provides the findings relevant to the study. The following table provides a recap to identify the product categories and chapter objectives for Chapters Five, Six, and Seven.

Chapter	Product Category	Chapter Objectives
Chapter Five (Study One)	Publicly consumed luxury-branded product (bag)	<ul style="list-style-type: none">• Theory building (by extending the theory of agonistic behaviour to consumer studies)• Conceptual framework development
Chapter Six (Study Two)	Privately consumed luxury-branded product (underwear)	<ul style="list-style-type: none">• Validation of the theoretical model• Generalisation study to a different product category (privately consumed product)
Chapter Seven (Study Three)	Luxury experiential service product (fine-dining restaurant)	<ul style="list-style-type: none">• Generalisation study to a different product category (experiential service)• Testing of moderator (opinion leadership/seeking)

The structure of this chapter is illustrated as follows. The chapter is opened with an abstract of the study and followed by the background of the study. A summary of the relevant literature review and hypotheses development follows in the next section. The chapter is continued with the Study Three's research methodology, the results and hypotheses testing. The chapter closes with a discussion of the results from Study Three and a conclusion.

7.2 ABSTRACT

Purpose – This study expands the scarcity literature in the context of luxury fine-dining restaurants. Underpinned by the theory of agonistic behaviour, this paper examines how different scarcity cue conditions (demand-driven or supply-driven) influence consumers' perception of luxury fine-dining restaurants. The influence of self-efficacy and opinion leadership/seeking as moderators are also investigated.

Design/methodology/approach – A self-administered questionnaire was designed using established scales and non-fictitious luxury brands were utilised as a stimulus to create a realistic scenario. Data was collected in Australia using Qualtrics in which screening questions were put in place to ensure the respondents are luxury consumers. One-way ANOVA and Structural Equation Modelling was used to analyse the data.

Findings –The results showed that supply-driven scarcity was perceived to be scarcer in comparison to demand-driven scarcity, and also perceived to be more sought after as compared to the control condition. Interestingly, a negative relationship was found between perceived value and purchase intention in the demand-driven scarcity cue condition. The result also shows that self-efficacy enhanced the non-significant relationship between perceived value and purchase intention to significance in the supply-driven and control conditions. Furthermore, only in supply-driven scarcity condition, self-efficacy and opinion leadership moderated the relationship between perceived value and purchase intention, while, only in demand-driven scarcity condition, self-efficacy and opinion seeking moderated the relationship between perceived value and purchase intention.

Practical implications – This research provides an understanding of consumers' perception towards luxury fine-dining restaurants presented with different heuristic scarcity cues. Recommendations are also provided on how luxury fine-dining restaurants should manage their branding strategies to remain exclusive and scarce in consumer's mind.

Originality/value – This study investigated the influence of scarcity effects in the context of luxury fine-dining restaurants. Moderators such as self-efficacy and opinion leadership were also included in the study.

7.3 INTRODUCTION

Luxury brands traditionally target a niche and exclusive range of high-class customers. It is only accessible to a selective, often exclusive, and small group of individuals. The true meaning of luxury lies in its uniqueness, scarcity, and the inability of the masses to obtain it (Dubois & Paternault, 1995). Products which are scarce are likely to be more expensive (Lynn, 1991; Worchel et al., 1975) and perceived as high quality (Chen & Sun, 2014; Wu, Lu, Wu & Fu, 2012). Scarce items also increase in uniqueness which allows the owner to differentiate themselves from the masses (Chen & Sun, 2014). Thus, luxury brand consumers are at the highest tier of the consumer market spectrum, and, thus, they are keen to spend money on unique and well-crafted items that come with an excessively high price tag.

According to evolutionary psychology, one of the motivations to consume luxury brands is rooted in a basic psychological need, which is the need to acquire mates for reproduction purposes. Since luxury brands are often expensive and scarce, luxury goods consumption displays qualities desirable for men to attract the opposite sex as it signifies wealth and financial stability (Nelissen & Meijers, 2011). Women, however, are more likely to purchase and display luxury brands with the aim to frighten female rivals (Wang & Griskevicius, 2013; Hudders et al., 2014). This signalling trait has become exceptionally important in today society as it plays a role in identifying individual's status and class within the group. Individuals who display luxury brands are perceived to be wealthy and likely to receive higher social status where others aspire to be like them (Nelissen & Meijers, 2011).

As such, these consumers, generally known as opinion leaders, act as a role model who inspire others to be like them and influence others by providing them guidance and information for a specific product category (Flynn et al., 1996). On the other hand, there is another type of consumer who often seeks information from others and may imitate the purchase behaviour and preferences of individuals they admire. These consumers are generally called as opinion seekers. As such, for the past decade, high-end luxury goods and services are gaining market share around the globe and the circle of luxury brands owners has expanded significantly. However, the growth of luxury consumers dilutes the very essence – prestige, scarcity and exclusivity – of luxury brands. In turn, the high social class members, generally the opinion leaders have the

tendency to avoid purchasing luxury brands that are already possessed by many others. A billionaire Chinese woman told China Market Research Group that “Louis Vuitton has become too ordinary. Everyone has it. You see everyone using it in every restaurant in Beijing” (Willett, 2015). Due to increased ownership and popularity, owning the luxury brand is no longer a status symbol and personal identity. As a result, many consumers have abandoned their favourite luxury brands and prefer other brands which are perceived to be more exclusive.

In contrast, in the context of luxury experiential services (such as travel, dining, entertainment, etc.), high social status consumers are less likely to be affected by high adoption from the less affluent consumers (Yang & Matilla, 2013). In fact, the luxury segment in the hospitality industry has been growing for the past decades. There has been a 4% growth in the luxury hospitality sector (Bain & Company, 2017). For instance, luxury cruises grew by 14% due to the strong demand by baby boomers and millennials (Bain & Company, 2017). Similarly, global luxury hotels are expected to achieve an average of 4.3% annual growth, reaching \$115.80 billion revenue by 2025 (Newsdesk, 2018).

7.3.1 Justification of the Study

Due to the rapid growth in the luxury experiential services sector, it is necessary for researchers to place more attention on this phenomenon. Individuals now place a greater importance on personal experiences and are sharing them with others more in comparison to material goods (Saiidi, 2016). Consumers are now observed to be more likely to spend money to improve their lives and mental well-being. Likewise, based on the report by Mintel's 2015 American Lifestyles, the total spending for ‘secondary needs’ categories, including travelling and dining out, will grow by approximately 22% over the next five years (Schultz, 2015).

Although hospitality researchers have shown interests in the increased luxury experiential consumption (e.g. Daun & Klinger, 2006; Yang & Matilla, 2013), limited studies have examined how consumers perceive and respond to luxury experiential services (Yang & Matilla, 2016). Further, previous studies on luxury brand industry were mainly focused on material possessions in comparison to experiential services (e.g. Dubois & Czellar, 2002; Nueno & Quelch, 1998; Phau & Prendergast, 2000; Liu

et al., 2012). Material possessions and experiential services have different characteristics and offer different benefits to consumers, thus, the result should not be generalised across different products and services.

Additionally, this recent trend challenges previous findings in the scarcity literature. The growth in the luxury hospitality sector implied that scarcity or exclusivity might not be an essential element to the success of the luxury hospitality industry (Yang & Mattila, 2013; Yang & Mattila, 2016). Likewise, previous studies have also found interesting results regarding the effectiveness of heuristic scarcity cues within the luxury brand industry. Studies have found that perceived scarcity does not necessarily directly impact perceived value, instead, value perception is more likely to be influenced by perceived competition (as discussed in Chapters Five and Six). Put simply, despite being presented as being scarce (through supply-driven or demand-driven scarcity cues), the perception of scarcity does not directly cause a product to be perceived as valuable. Instead, these products are perceived to be more valuable because they are perceived to be highly sought after and desired by many (Cialdini, 2009; Aggarwal et al., 2011). The conflicting findings within scarcity literature have provoked the need to research consumer perceptions of scarce items to obtain more recent and relevant findings, especially in the context of luxury experiential service products.

7.3.2 The Scope and Research Objectives of the Study

This study aims to identify how consumers perceived luxury experiential services which are framed to be scarce due to high demand, scarce due to low supply or not scarce. Chapters Five and Six have demonstrated the propriety of using the theory of agonistic behaviour as the underpinning theory, to investigate scarcity's effect on perceived value and purchase intention. Thus, this study investigates the influence of perceived scarcity and competition towards perceived value which, in turn, leads to purchase intention, applying the theory of agonistic behaviour in the context of luxury fine-dining restaurants.

This study focuses on luxury fine-dining restaurants as the stimulus for the study and non-fictitious brands are chosen to create an accurate representation of reality. As evidenced by the number of luxury fine-dining restaurants worldwide, the luxury restaurant industry has experienced rapid growth in the past decade (Yang & Mattila,

2015). A report by Bain & Company (2017) showed that the sales of high-end food and wine both grew by 6% from 2016 to 2017. In fact, luxury brands (e.g., Armani, Gucci and Bvlgari) are extending into the hospitality industry in order to connect with their consumers and build brand attachment through unique and multisensorial experiences (Godfrey, 2017).

Moreover, the current research focuses on elite luxury brands and alternative (non-elite) brands. The elite-level luxury brands are the top of the top luxury hierarchy – generally are bespoke and not accessible to the mass market – that serve as the benchmark of highest exclusivity and best quality (Rambourg, 2014). Alternative brands are brands that serve as a close substitute for the first brand choice (e.g., mimic brands and counterfeits of luxury-branded products) (adapted from Ang et al., 2001; Teah, 2010). Accordingly, this research aims to use purchase intention for elite luxury brands and alternative (non-elite) brands as a proxy for ‘aggressive’ and ‘submissive’ behaviour.

This study also takes into account the social phenomenon of consumers communicating with other consumers regarding brands, products, goods, or services – currently known as opinion leadership and opinion seeking. As identified, opinion leadership and opinion seeking hold an important role in the luxury branding context. Despite numerous research on opinion leadership and opinion seeking in the fashion field (e.g. Goldsmith & Clark, 2008; Bertrandias & Goldsmith, 2006; Phau & Lo, 2004; Workman & Johnson, 1993), limited studies have investigated its impact towards purchase intention of luxury experiential services. Hence, it is important to empirically test the influence of opinion leading/seeking motivations towards purchase intention of luxury brands.

The research objectives addressed in this study are as follow:

- RO1:** To identify the relative effects of various scarcity types (supply-driven, demand-driven, and control) on the perception of product scarcity and competitiveness in the context of luxury restaurants;
- RO2:** To evaluate the influence of perceived scarcity and competition on perceived value which, in turn, influences purchase intention in the context of publicly consumed luxury-branded products;

- RO3:** To examine the moderating role of self-efficacy on the relationship between perceived value and purchase intention; and
- RO4:** To investigate the three-way interaction between perceived value, opinion leadership/seeking, and self-efficacy towards purchase intention of luxury fine-dining restaurants.

7.4 RELEVANT LITERATURE AND HYPOTHESIS DEVELOPMENT

7.4.1 Animal Social Behaviour and Evolutionary Psychology

All habitats contain a rich combination of resources; some are edible, yet most of it is not. According to the Theory of Evolution, all living organisms must compete with others to obtain resources which are often scarce to survive (Darwin, 1859). Only the 'fittest' traits of the species survive, which then cause the evolution of the entire species over time and sometimes extinction of older species. Those with traits most adaptable to their environments will live long enough to reproduce while individuals who do not possess such traits would eventually become extinct.

Rooted in the Theory of Evolution, a crucial theoretical paradigm called evolutionary psychology emerged. It is the perfect marriage between modern psychology and evolutionary biology which uses the logic of natural selection to understand human mental processes and behaviour (Colarelli & Dettmann, 2003). Although most people often do not recognise the ultimate reason behind their behaviours (Barrett & Kurzban, 2006; Kenrick et al., 2010; Tooby & Cosmides, 2005), every action has both immediate and ultimate causes which aim to increase evolutionary benefits. For instance, a man can be consciously motivated to purchase a luxury car because it makes him feel good due to its expensive leather seats and acceleration ability (a proximate reason). However, he may be unconsciously motivated to own that car as it can increase his attractiveness as a potential mate which leads to higher reproductive fitness (an ultimate reason) (Griskevicius et al., 2007; Sundie et al., 2011).

As such, according to evolutionary psychology, the need to purchase luxury products is a proximate reason for achieving social dominance and the fundamental need of mating (Griskevicius & Kenrick, 2013). Consuming luxury items serves as a costly signalling trait that provokes status-dependent favourable treatment in human social interactions (Nelissen & Meijers, 2011). When mate acquisition motive is activated, men's intention to spend on luxury products increases (Griskevicius et al., 2007) and they are more likely to choose more conspicuous and expensive brands (Sundie et al., 2011) to stand out from the crowd (Griskevicius & Kenrick, 2013).

Women, on the other hand, have the tendency to display luxury brand labels as a self-promotion strategy in order to deter female rivals (Wang & Girskevicius, 2014;

Hudders et al., 2014). Women who possess luxury brands are perceived to be more attractive, sexy, smart, mature, and ambitious compared to those who do not, improving their benefits against same-sex rivals for companions (Hudders et al., 2014).

This signalling trait has become exceptionally important in today's society as it plays a role in identifying an individual's status and class within the group. Status differences among individuals play a huge role in resource allocation, conflict resolution, and mating (Fried, 1967; Cheng et al., 2010). Individuals with high social status have higher influence over group decisions and resource allocations (Berger et al., 1980). In contrast, individuals with low social status often submit and give up these benefits for higher status group members. As a result, many individuals have the desire to be one of the high social status individuals in order to achieve dominance within a social setting.

Previous studies on luxury brands, however, often infer that luxury brands should be visible in order to evoke envy and gain respect from others (e.g., Chao & Schor, 1996; Vigneron & Johnson, 2004). The tangibility of the product seems to pose an important role for gaining high status and dominance in a social setting. It becomes important to investigate the influence of scarcity cues towards consumers' perception and behaviour in the context of luxury experiential services, specifically luxury fine-dining restaurants.

7.4.1 Material Possession vs Experiential Service Purchases

Material purchases is defined as "those made with the primary intention of acquiring a material good: a tangible object that is kept in one's possession", while experiential purchases are defined as "those made with the primary intention of acquiring a life experience: an event or series of events that one lives through" (Van Boven & Gilovich, 2003, p1194). Over the past decade, research has investigated the differences between material possession and experiential purchases in providing satisfaction and happiness to consumers (Carter & Gilovich, 2010, 2012; Nicolao et al., 2009; Van Boven et al., 2010; Van Boven & Gilovich, 2003).

The evidence from previous studies has found that experiential purchases lead to greater happiness and offer more value for money in comparison to material purchases (Millar & Thomas, 2009; Nicolao et al., 2009; Van Boven & Gilovich, 2003).

Conversations about material items are found to be less pleasant than conversations about life experiences (Van Boven et al., 2010), so individuals have the tendency to share their memories of experiential purchases, rather than memories of material items (Kumar et al., 2014).

Life experiences also increase happiness because experiential purchases are more difficult to compare than material purchases (Carter & Gilovich 2012). Material purchases are tangible and publicly visible to others, while experiential purchases are intangible, heterogeneous, and less conspicuous by nature. Moreover, every consumer has a different experience during service encounters due to the high percentage of non-alignable attributes (e.g. the variability of employee attitudes, special services availability, and other consumers' behaviour) which are hard to quantify. Yang and Matilla (2014) found that although less affluent consumers begin to mimic brand preferences of the high-class consumers, the elite consumers are less likely to react negatively to the high adoption within the context of luxury hospitality industry in comparison to the luxury goods industry.

This finding then raised the question of how heuristic scarcity cues would differ for experiential purchases. Despite numerous research has investigated the different benefits between material possession and experiential purchases on consumers (Carter & Gilovich, 2010, 2012; Nicolao et al., 2009; Van Boven et al., 2010; Van Boven & Gilovich 2003), limited studies have investigated the influence of heuristic scarcity cues on consumer behaviour in the context of luxury experiential purchases, specifically in luxury fine-dining restaurant.

7.4.2 Luxury Fine-Dining Restaurant

The shift in social trends has caused significant growth for the fine-dining industry over the past five years (IbisWorld, 2018). Satisfying appetite is not the only reason as to why patrons visit restaurants. Especially in a luxury fine-dining restaurant setting, providing high-quality dining experience and services has become a crucial element within dining industry (Walker & Lundberg, 2005). Due to the rapid growth of luxurious fine-dining restaurant, this study focuses on luxury fine-dining or haute couture restaurant. This study also aims to fill the research gap as scarcity in the context of luxurious restaurants as it is not well understood in theory.

Within the haute couture sector, Bourdieu (1979) stated that the value of the object does not lie in the scarcity of the product, it lies in the scarcity of the person producing it. In other words, the skills and knowledge possessed by the head chef is the scarcity element within a luxury fine-dining restaurant. The head chef holds a symbolic capital of authority in which he/she can authenticate food preparation even if he/she is seldom directly responsible for it.

Extant studies on restaurant attributes found that the critical factors of luxury fine-dining restaurants include both tangible (e.g. food quality, food taste, and exceptional menu items) and intangible qualities (e.g. restaurant atmosphere, ambience quality, frontline competency, and knowledge) (Kwun & Oh, 2006; Njite et al., 2008; Ryu, Lee, & Kim, 2012). Out of all these attributes, several studies have found that food quality (Dutta et al., 2014; Parsa et al., 2012) and service quality (Johns & Pine, 2002; Soriano, 2002) are the essential factors in luxury fine-dining restaurants. Exceptional food and service quality provide assurance to restaurant patrons that various aspects of their dining experiences will meet or exceed their expectation (Namkung & Jang, 2008). Therefore, fine-dining restaurants carefully craft their degustation menu from the start of the dining experience to the end. This is more than just how the food actually tastes but extends to how beautifully dishes are made and how beautiful they are to look at (Brown & Sherry, 2014). Hence, to ensure the success of the operation, luxury restaurants often uses unique ingredients that are scarce or extremely expensive and are not common for consumers to purchase for home consumption (Schjøll & Alfnes, 2017).

Although these components are crucial for luxury fine-dining restaurants, the intangibility nature has caused uncertainty or risk to persist (Jun et al., 2017). For example, the ingredients used at luxury fine-dining restaurants often rely on credence attributes – such as freshness, origin, organic, and quality – to signal their uniqueness. This becomes a significant issue because general consumers are often not capable of accurately evaluating the quality of food and services provided by the restaurants before or even after consumption (Darby & Karni, 1973). General consumers have limited knowledge on how to evaluate food or service quality which makes it difficult for them to accurately determine the food and service quality (Jun et al., 2017). Patrons are then exposed to a certain degree of uncertainty which may be more severe in luxury restaurants because of higher transaction costs (Dimara & Skuras, 2005). Jun et al.

(2017) found that luxury restaurants benefit from third-party certification to verify that the restaurant meets specific standards. This serves as a quality signal to reduce information asymmetry between consumers and restaurants as well as reducing the uncertainty and risk. Further, in line with the scarcity literature, risk can be minimised by displaying demand-driven scarcity cues as they indicate quality and popularity.

7.4.3 Heuristic Scarcity Cues

There are two types of heuristic scarcity cues which are commonly practices within the luxury branding context, namely supply-driven and demand-driven scarcity cue (Verhallen, 1982). Demand-driven scarcity cue can be signalled with phrases like “already 90% of our stock sold” or “due to high demand, nearly sold out”. These phrases indicate that there are a high number of individuals who have purchased the product and, as a result, there is only limited stock available in-store. Supply-driven scarcity cue, on the other hand, occurs when the companies produce a limited number of products, unintentionally (due to limited availability of resources) or intentionally (to create scarcity), which renders the product insufficient to satisfy the market. Supply-based scarcity can be signalled with phrases like “limited edition” or “limited availability, due to low supply”.

Although the two scarcity cues indicate the notion of product scarcity, the two scarcity cues will result in distinct product valuations which leads to different product choices (Stock & Balachander, 2005). A study by Gierl and Huettl (2010) found that supply-driven scarcity works more effectively for conspicuous (publicly consumed) products, on the other hand, demand-driven scarcity works more effectively for non-conspicuous (privately consumed) products (see Chapter Five and Six for the detailed explanation).

Few recent studies, however, have found interesting results which opposed previous findings within scarcity literature. The studies found that there were no significant relationship between perceived scarcity and value, but a significant relationship was found between perceived competition and value (discussed in Chapter Five and Six). Furthermore, despite the different product categories (public or privately consumed luxury-branded items), supply-driven scarcity cue works best as it signify exclusivity and prestige which represent the core principle of luxury brands (discussed in Chapter Five and Six). This study aims to examine the influence of the different heuristic

scarcity cues (supply-driven and demand-driven) on consumers' perception and behaviour in the context of luxury fine-dining restaurant.

7.4.4 Theoretical Framework

Replicating the research done in Chapter Five and Six, the theory of Agonistic Behaviour is treated as the underpinned framework for the current study, which is supported by the S-O-R model.

7.4.4.1 The Theory of Agonistic Behaviour

Theory of agonistic behaviour is defined as any specific social behaviour which associated with fighting in animals to establish hierarchical relationships within the species (Kudryavtseva, 2000). The fight will then determine the rank of animals of a species in the ecosystem (Deag, 1977). As previously identified in evolutionary psychology, the winner of the contests over resources is identified as the dominant while the loser is called as the subordinate (Popp & DeVore, 1979). The dominant will gain priority access to resources, social status, freedom of movement, and reproductive success (King, 1973). On the other hand, the subordinate, the loser, is forced to drive away, repress reproductive activities, and seek an alternative for resources.

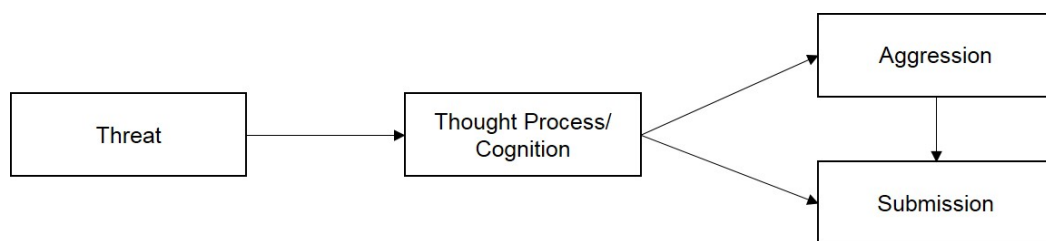
The theory of agonistic behaviour comprises three different stages, namely, threat, aggression, and submission. In the first stage, 'threat,' the animals perform species-specific vocalisations, postures, facial expressions and body movements that display aggression (McGlone, 1986). This threat leads to two possible scenarios. In the first scenario, the opponent decides to withdraw from the competition after being threatened, which is called as 'submissive' behaviour. The fight then escalates ('aggressive' behaviour) until one of the animals submits ('submissive' behaviour).

However, before animals decide whether they choose to be aggressive or submissive, they go through a thought process or cognition process which allows them to evaluate the external and internal factors (Premack, 2007). One of the main factors which influence the decision to be aggressive or submissive is heavily impacted by the body size and physical attributes. Animals with large body size and superior body attributes are more likely to be aggressive and win the fight (Schuett, 1997; Wise & Jaeger, 1998). This is due to the fact that they are stronger and has more competitive advantage compared to the small ones.

The number of competitors is also another factor influencing agonistic behaviour (Boyd, 1953; Black & Owen, 1989; Hanson, 1953; Raveling, 1970). There is a dome-shaped correlation between the competitor-to-resource ratio (CRR) and the intensity of aggression (Grant et al., 2000). When there are more resources available relative to the number of competitors ($CRR < 1$), the rate of aggression is low. Then, the aggression rate increases as the CRR rises to two ($CRR = 2$), the number of competitors are double the size of the resources amount. However, as the CRR increases to more than two ($CRR > 2$), the competitors are more than twice the amount of the resources, the rate of aggression falls.

The figure 7.2 below shows the stages of agonistic behaviour along with the cognitive process.

Figure 7.1: Agonistic Behaviour Stages



7.4.4.2 Stimulus-Organism-Response (S-O-R) model

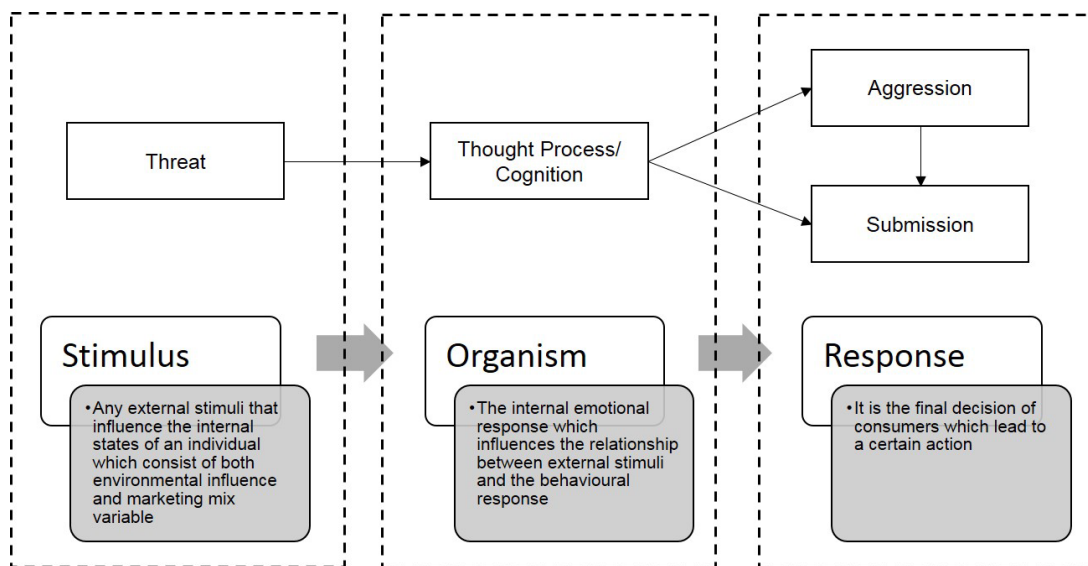
To operationalise the theory in the context of consumer behaviour towards luxury products, the S-O-R model is also applied for the purposes of the current study. Similar to the theory of agonistic behaviour, the S-O-R model consists of three elements to provide a general framework in explaining an individual's action. The three elements are stimulus, organism, and response (Mehrabian & Russell, 1974).

Stimulus (S) is defined as any external stimuli or situation that influences the internal state of an individual and consists of both environmental influences and marketing mix variables (Bagozzi, 1986; Eroglu et al., 2005). This first stage of the agonistic behaviour, threat, can be argued to align with the stimulus (S) component in the S-O-R model. Organism (O) is defined as the individual's emotional and cognitive states which results from a reaction to external stimuli and influences the behavioural response (Bagozzi, 1986). The organism (O) component of the S-O-R model can be compared to the cognitive process in the theory of agonistic behaviour. The

individual's internal states (O) then leads to behaviour action, which is the response (R). In the theory of agonistic behaviour, the decision to either be aggressive or submissive behaviour can be equated to the response (R) in the S-O-R model.

For the purposes of this study, the 'stimuli' is operationalised as the threat; the 'organism' is operationalised as the consumer's cognitive process (perception of value); and the 'response' is operationalised as the choice between aggression and submission (purchase intention of either desired/elite brand, alternative brand or neither), as shown in Figure 7.2.

Figure 7.2: S-O-R Model with the Stages of Agonistic Behaviour



The S-O-R model, in relation to the agonistic behaviour theory is outlined below:

Stimulus

As identified, the 'threat' serves as a stimulus to the individual. Animals perform species-specific behaviours to show superiority to scare the opponents away. In a consumer behaviour context, the threat is not necessarily triggered by the presence of other consumers, it can also be created by marketers using heuristic scarcity cues (Cialdini, 2009; Gitlin, 2007). Products with heuristic scarcity cues, such as "limited edition" or "nearly sold out" cues, are more likely to be perceived as scarce and highly sought after by consumers (Kristofferson et al., 2016). Therefore, the stimulus is conceptualised as the perceived scarcity and perceived competition.

Perceived Scarcity

Perceived scarcity refers to the perceived or experienced product shortage (Byun & Strenquist, 2012), which can be induced by marketers using supply- and demand-driven scarcity cues. As both of these heuristic scarcity cues signify that the product availability is limited, they are likely to be perceived as scarce. As identified in the previous chapter, scarcity of resources is a major reason motivating agonistic behaviour. Similarly, based on *the psychological reactance theory*, freedom is threatened when the resources are perceived to be scarce. The need to maintain freedom increases desire considerably (Brehm, 1966). Therefore, when consumers are presented with the elite luxury-branded products with heuristic scarcity cues, consumer perceptions of scarcity are expected to be higher as compared to elite luxury-branded product with no scarcity cues (Lynn, 1992a, 1992b; Verhallen, 1982). However, it can be expected that there are no significant differences between the perceived scarcity elicited by supply-driven and demand-driven scarcity cues. As such, the following hypothesis is postulated:

H1. Perceived scarcity is not significantly different in both demand-driven and supply-driven scarcity conditions, but is significantly lower in the control condition.

Perceived Competition

According to evolutionary theory, human beings are hardwired to act competitively and impulsively in times of threat and uncertainty, including when resources for survival are scarce (Saad, 2017). For instance, when hurricanes warning sound, individuals often race to the store to buy and hoard commodities such as water and food before they run out (Nichols & Flint, 2013). Similarly, based on the theory of agonistic behaviour, animals have to fight others in order to obtain scarce resources that are needed to survive (Mursa, 2012). Although the theory of agonistic behaviour relates to scarce resources which are crucial for survival, aggressive and competitive behaviour in consumers may also be observed for scarce non-survival resources, as evidenced through Black Friday sales (Lennon et al., 2011).

Limited product availability restricts the number of individuals who can obtain the products. Hence, consumers tend to assume that they have to be fast in purchasing products before others (Byun & Mann, 2011), fostering competition between

individuals. Consumers also tend to be more conscious of the behaviour of other shoppers while shopping and will feel rivalry against others (Byun & Sternquist, 2008; Nichols, 2010). Therefore, the perception of competition is likely to be higher in products with a scarcity cue as compared to products without any scarcity cue. However, it is expected that there will be no significant difference between supply-driven scarcity cue and demand-driven scarcity cue as they both signify limited product availability, outside the control of consumers. As such, the following hypothesis is postulated:

H2. Perceived competition is not significantly different in both demand-driven and supply-driven scarcity conditions, but is significantly lower in the control condition.

Stimulus - Organism

As previously discussed, the thought process in the theory of agonistic behaviour is conceptualised as the ‘organism’ in the S-O-R model. In essence, this is the stage in which organisms process their internal emotional and cognitive states after they are presented with external stimuli. Likewise, in a consumer context, when presented with a scarce product, consumers are more likely to assess the value of the products to identify the worthiness of the purchase. It is then hypothesised that when a product is seen to be scarce and highly sought after, consumers are more likely to perceive the product as more valuable (Verhallen & Robben, 1994).

Perceived Scarcity → Perceived Value

Luxury brands are well-known for their rarity and exclusivity (Burns & Brandy, 2001); this is a distinct characteristic of luxury brands which differentiates them from non-luxury brands. Luxury brands must maintain their relative rarity value by preventing over-diffusion in the market, which distinguishes luxury brands from non-luxury brands (Burns & Brandy, 2001; Dubois & Paternault, 1995). Scarcity perception has been primarily associated with high quality (Chen & Sun, 2014; We & Hsing, 2006; Wu et al., 2012), exclusiveness (Amaldoss & Jain, 2005; Chen & Sun, 2014; Park et al., 2008; Van Herpen et al., 2009), and attractiveness (Fromkin, 1970; Szybillo, 1975). In line with *the commodity theory*, individuals are more likely to have a greater preference for products which are perceived as scarce in comparison to products which

are readily available (Lynn, 1987; Verhallen, 1982). Previous studies have also supported the notion that products in short supply are more likely to be perceived as more valuable (e.g. Brock, 1968; Cialdini, 1987; Eisend, 2008; Lynn, 1991; Sharma & Alter, 2012; Verhallen & Robben, 1994). As such, the following hypothesis is developed:

H3. Perceived scarcity has a positive influence on perceived value.

Perceived Competition → Perceived Value

Competitive behaviour is often motivated by the need to achieve and desire to win (Murray, 1938). Competition among shoppers gives a thrill or arousal associated with the sense of achievement derived from the competition for scarce products (Bardhi, 2003; Eroglu et al., 2005; Nichols, 2010). Consumers are then likely to perceive the product as valuable as it creates an enjoyable feeling for the winning party and allows them to gain superiority over rivals (Hibbard, 2000; Nichols & Flint, 2013). This claim is also supported by *the commodity theory* which states that an item should have an initial level of desirability, high level of brand awareness, and be sought after by other consumers to enhance product value (Eisend, 2008; Lynn, 1991). Consumers are more likely to perceive luxury-branded products as valuable if the products are perceived to be highly desirable and sought after by others, regardless of the heuristic scarcity cues presented. As such, the following hypothesis is postulated:

H4. Perceived competition has a positive influence on perceived value.

Organism - Response

According to the theory of agonistic behaviour, there are two possible responses, aggression or submission. As highlighted, aggressive behaviour occurs when animals fight in order to obtain scarce resources. Thus, in a consumer context, this can be measured by purchase intention for elite brands. On the other hand, submissive behaviour occurs when animals chooses to avoid the fight and seek alternative resources. Thus, in a consumer context, this can be measured by purchase intention for alternative brands.

Therefore, as seen in Figure 3.9, the intention to purchase is a representation of aggressive and submissive behaviour. Buying an elite brand is considered as an act of

aggression, while choosing neither handbag or buying the alternative brand is seen as an act the submission.

Perceived Value → Purchase Intention

Perceived value represents the customer's assessment of the utility of a product based on perceptions of what is received and what is given (Zeithaml, 1988). If the perceived benefits are more than what the individuals have to pay, then the value is relatively high. Numerous studies have found that high perceived value leads to higher purchase intention (Bakers et al., 2002; Chen & Chang, 2012; Chi et al., 2011; Chiang & Jang, 2007; Kalra & Goodstein, 1998; Tarn, 1999) and willingness to pay premium prices (Keller, 1993; Netemeyer et al., 2004). Similarly, in the context of luxury brands, researchers support the view that the value of a product/brand influence both consumer preferences and their willingness to purchase the product/brand (Kalra & Goodstein, 1998; Netemeyer et al., 2004). These results demonstrated that consumers are more likely to purchase the luxury brand if they are perceived to be valuable (Bian & Forsythe, 2012; Hung et al., 2011; Li et al., 2012; Shukla & Purani, 2012). As such, the following hypothesis is postulated:

H5. Perceived value has a positive influence on purchase intention for the elite brand.

7.4.4.3 Moderation effect

Self-Efficacy

One of the major factors influencing the decision to be aggressive or submissive is body size and attributes. Animals with large body size and superior body attributes are more likely to be aggressive and win the fight (Schuett, 1997; Wise & Jaeger, 1998). They tend to be stronger and have greater competitive advantage over smaller ones. In a consumption setting characteristics which determine aggressive behaviour and winning results are likely to be the individuals' available resources such as financial, knowledge, and time resources. It is expected that consumers who are wealthier and have the skills and time available are more likely to acquire the elite brands. Self-efficacy is then conceptualised to represent body size and attributes in human behaviour.

Self-efficacy is a construct in the *social cognitive theory* (Bandura, 1982). Individuals have the tendency to make judgments regarding their capabilities and identify any

possible outcomes prior to any decision-making process (Bandura, 1989). The belief in one's capabilities to organise and execute the courses of action required to manage prospective situations is referred to as self-efficacy (Bandura, 1986). The variable self-efficacy is hypothesised to be the moderating variable for the relationship between perceived value and purchase intention. The greater perceived self-efficacy, the more likely consumers are to set higher goals, be more persistent in their efforts, and be more committed to achieving them (Bandura, 1988; Locke et al., 1984; Luszczynska & Schwarzer, 2005). In this case, since the elite luxury-branded products/services are scarce (and thus restricted), individuals who have the ability to purchase the scarce products/services are expected to be more motivated to purchase them instead of alternatives. Hence, self-efficacy is proposed to strengthen the relationship between perceived value and purchase intention. As such, the following hypothesis is postulated:

H6. Self-efficacy strengthens the relationship between perceived value and purchase intention for the elite brand.

Opinion Leadership – Opinion Seeking

Besides self-efficacy, opinion leadership/opinion seeking are also expected to influence the relationship between perceived value and purchase intention. As identified, agonistic behaviour generally occurs to resolve conflict for territory, resources, status, mates, and protection of self or young (Sarkar, 2003). In turn, this determines the rank of animals within the ecosystem (Deag, 1977). Winners become dominant, while the losers are subordinate (Popp & De Vore, 1979). The dominant has priority access of resources, social status, freedom of movement, and reproductive success, while the subordinate is forced to drive away (King, 1973). In a consumer context, the dominant is conceptualised as opinion leaders while the subordinate is conceptualised as opinion seekers.

Consumers influence other consumers in different ways (Flynn et al., 1996). Opinion leaders have greater influence over other individuals, while opinion seekers seek for information from the opinion leaders. Opinion leaders are defined as “individuals who exert an unequal amount of influence on the decisions of others” (Rogers & Cartano, 1962, p435). They are generally passionate and knowledgeable about a certain product category, which, in turn, influences the purchasing decisions of others (Flynn et al.

1996). Opinion leaders assert dominance in order to obtain high influence within a social setting (Berger et al., 1980). Previous studies have also found that opinion leaders score higher on public individuation, suggesting that leaders have the tendency to stand out within the social group (Chan, 1988; Chan & Misra, 1990). Accordingly, opinion leaders prefer fashion brands perceived as unique (Dawson & Riggway, 1987). By sharing information about products and brands, Simonson and Nowlis (2000) believe that unconventional choices help in facilitating communication, drawing more attention from others and establishing superiority of the original individuals. Moreover, status consumption is positively related to fashion opinion leadership (Goldsmith & Clark, 2007). In other words, leaders are likely to consume luxury products in order to convey status and dominance. Therefore, luxury restaurants with supply-driven scarcity cues are more attractive to the opinion leaders in comparison to those with demand-driven scarcity cues. It is thus expected that opinion leaders who have high self-efficacy and perceived luxury restaurant which is scarce due to limited supply as valuable, will have higher intention to dine at the restaurant. As such, the following hypothesis is postulated:

H7a. Only in supply-driven scarcity condition, a three-way interaction will be observed for the relationship between perceived value, self-efficacy and opinion leadership on purchase intention. Specifically, the level of opinion leadership enhances the moderation of self-efficacy on the relationship between perceived value and purchase intention.

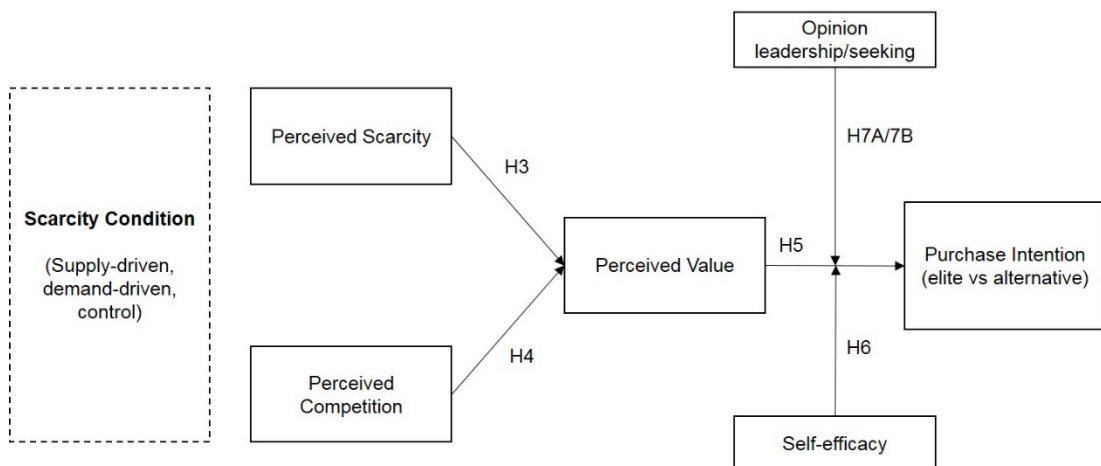
Opinion seekers, on the other hand, are those who actively seek advice from opinion leaders (Engel et al., 1990). Seekers do not have the same interest in and knowledge of the product category as opinion leaders do (Flynn et al., 1996). They are generally less knowledgeable, more attentive to social comparison information, and have lower self-esteem (Pornpitakpan, 2010). Thus, they seek information from others to reduce purchase risk and to make the best purchase decision (Punj & Staelin, 1983). Furthermore, opinion seekers have the desire to be a member of a certain group. In a luxury branding context, seekers are motivated to improve their standing in a social group and to conform to high social status individuals, and their satisfaction increases when they consume the same luxury products as luxury consumers (Becker, 1991; Jones, 1984). As described by *social comparison theory*, individuals often perform an upward comparison which motivates them to improve themselves so that they can

fit in to a higher social class. As a result, contrary to opinion leaders, luxury restaurants with demand-driven scarcity cues will be perceived to be more attractive than supply-driven scarcity cues for opinion seekers as it allows them to fit into a desired social group. It is expected that opinion seekers who have high self-efficacy and perceive luxury restaurants which are scarce due to high demand as valuable will have higher intention to dine at the restaurant. As such, the following hypotheses is postulated:

H7b. Only in demand-driven scarcity condition, a three-way interaction will be observed for the relationship between perceived value, self-efficacy and opinion seeker on purchase intention. Specifically, the level of opinion seeking enhances the moderation of self-efficacy on the relationship between perceived value and purchase intention.

The hypotheses drawn lead to the portrayal of the proposed research framework for this study (Figure 7.3).

Figure 7.3: The Proposed Framework for Purchase Intention of Fine-dining Restaurant



The summary of the proposed hypotheses are as follow:

- H1** Perceived scarcity is not significantly different in both demand-driven and supply-driven scarcity conditions, but is significantly lower in the control condition.
- H2** Perceived competition is not significantly different in both demand-driven and supply-driven scarcity conditions, but is significantly lower in the control condition.

- H3** Perceived scarcity has a positive influence on perceived value.
- H4** Perceived competition has a positive influence on perceived value.
- H5** Perceived value has a positive influence on purchase intention for the elite brand.
- H6** Self-efficacy strengthens the relationship between perceived value and purchase intention of the elite brands in all scarcity conditions.
- H7a** Only in supply-driven scarcity condition, a three-way interaction will be observed for the relationship between perceived value, self-efficacy and opinion leadership on purchase intention. Specifically, the level of opinion leadership enhances the moderation of self-efficacy on the relationship between perceived value and purchase intention.
- H7b** Only in demand-driven scarcity condition, a three-way interaction will be observed for the relationship between perceived value, self-efficacy and opinion seeker on purchase intention. Specifically, the level of opinion seeking enhances the moderation of self-efficacy on the relationship between perceived value and purchase intention.

7.5 METHODOLOGY

7.5.1 Research Design

As the aim of this research was to examine the influence of different scarcity cues on consumers' perception, an experimental approach was adopted to investigate causal relationships between the independent and dependent variables (Kirk, 2012). Respondents were randomly allocated to different conditions in a 3 (scarcity conditions) between-subjects factorial design. The scarcity conditions included demand-driven scarcity, supply-driven scarcity and control conditions.

7.5.2 Sample and Data Collection

This study was conducted on the Australian population, specifically individuals who had purchased luxury-branded products/services. Since this research focuses on luxury-branded products which requires the opinions of actual luxury consumers, a student sample was not deemed appropriate as the average students would not be able to afford luxury branded products. As such, a consumer panel was ultimately preferred (Kapferer & Laurent, 2016).

Data was collected using Qualtrics, an online software with panel data facilities. Qualtrics was chosen because the sample parameters can be specified in order to obtain the most accurate respondent profile; in the case of this study, luxury consumers (Pollard 2002).

7.5.3 Brand Selection

To identify the most suitable brands (both elite and alternative brands) for the study, a second preliminary test was conducted. The pre-test asked respondents to state their familiarity with a list of brands (both elite and alternative brands) for each product category (publicly consumed, privately consumed, and experiential service products); brands with the lowest familiarity ratings were selected. To further ensure low familiarity, it was ensured that brands presented to the respondents during the pre-test did not have restaurants in Australia.

Based on the pre- test, Alain Ducasse au Plaza Athénée was voted by the respondents as the least recognised luxury fine-dining restaurant. Therefore, the elite luxury brand restaurant chosen for the third study is Alain Ducasse au Plaza Athénée. It is a Michelin

star luxury fine dining French restaurant which offers naturality cuisine inspired by the fish-vegetable-cereal trilogy (Alain Ducasse, 2018). The interior takes in features such as cultured stainless steel ‘shells’ and a chandelier detailed with Swarovski crystal (Alain Ducasse, 2018). For the alternative brand, the affordable French restaurant La Brasserie was chosen because it was the brand with the least familiarity as compared to the other alternative brands presented. Since La Brasserie is an affordable fine-dining restaurant that offers similar cuisine and atmosphere as compared to Alain Ducasse, La Brasserie was suitable alternative for the research.

7.5.4 Stimulus Development

The stimulus design was determined by adapting the process employed by Phau and Cheong (2009) through a series of focus groups with young adults. The information and product images for all stimuli were taken from the official company websites of the relevant brands. The stimuli were carefully designed to create a sense of professionalism and to emulate a real advertisement pamphlet while ensuring that the key content was sufficiently prominent for respondents to fully comprehend the message.

A total of 4 pamphlet versions were created (3 scarcity conditions with desired brand + alternative brand). Since the service category chosen was a restaurant, the stimuli were not differentiated based on gender. Similar to Study One and Two, the stimuli were created as identical as possible across different versions.

For the supply-driven scarcity condition, the phrase “most unique” and “most exclusive” were used (Gierl & Huettl 2010); for the demand-driven scarcity condition, the phrases “most popular” and “highly in demand” were used; while for control condition, the word “new” was used to eliminate the perception of scarcity. To further emphasise the scarcity perception to the respondents, in all scarcity conditions, it was described that patrons are encouraged to make table reservation to ensure an exceptional dining experience. For both supply-driven and demand-driven, additional information was stated that walk-in is not accepted due to either increasing demand or limited availability. For the alternative brand pamphlet, keywords, such as ‘budget’ and ‘affordable’ were put in place to signal lower quality and price in comparison to the desired brand. However, to ensure consistency across pamphlets, all pictures and information were placed in the same position and contained the same theme as the elite

brand pamphlet to ensure similarities across pamphlets. The example of the Stimulus is available in Figure 7.4.

Figure 7.4: Sample Stimulus in Survey Instrument - Alain Ducasse au Plaza Athénée (Demand-driven Scarcity Condition)



7.5.5 Survey Instrument

Prior to finalising the questionnaires, pilot testing was conducted on luxury consumers to ensure all questions were clear. The measurement used in the study are established scales with Cronbach’s Alpha higher than 0.8, fulfilling the criteria by Hair et al. (2010). The scales were presented in seven-point Likert scales, in which 1 = strongly disagree to 7 = strongly agree. Purchase intention, however, is a continuum scale in which option 1 represents a strong intention to buy the alternative brand, 4 accounts for neither alternative nor desired brand, and 7 accounts for a strong intention to acquire the elite brand. Some of the items were altered to fit the context of the study.

Screening questions were placed to filter out those who (1) are not luxury brand consumers, (2) have unfavourable attitudes towards the luxury brands, and (3) have extensive knowledge about the brand. Respondents were screened out if they selected

anything above 4 = “neither agree or disagree”. Screened out respondents were immediately directed to the final page and thanked for participating in the survey. Conversely, respondents that met all the criteria set, were directed to the start of the questionnaire.

The survey also included attention checks throughout the questionnaire to ensure data quality. These attention checks is useful to identify careless respondents and screen them out before analysis are carried out (Maniaci & Rogge, 2014; Schmitt & Stults, 1985). The questionnaire comprised of four main sections as follows:

1. A short video was presented in the first section of the questionnaire to establish the elite brand. These videos were taken from the Alain Ducasse official websites. To ensure the respondents perceive the elite brand as luxurious, additional screening questions were placed to screen out those who do not perceive the chosen luxury brands as luxurious. Screened out respondents were immediately directed to the final page and thanked for participating in the survey. Conversely, respondents that met all the criteria set, were directed to Section B.
2. In Section B, respondents were asked to answer a 6-item opinion leadership scale and a 6-item opinion seeking scale adopted by Flynn et al. (1996). The stimulus of Alain Ducasse (elite brand) was then presented, which followed by a 5-item perceived scarcity scale adopted from Byun and Sternquist (2012) and a 5-item perceived competition scale adopted from Byun and Mann (2011). The section was continued with a 19-item perceived value scale by Sweeney and Soutar (2001) and ended with a 6-item self-efficacy scale by Pedersen (2009).
3. In Section C, the stimulus of La Brassarie (alternative brand) was presented along with a description to introduce the brand as a non-luxurious alternative brand. Similar to Section A, screening questions to control for brand familiarity and attitude was put in place prior to presenting the stimulus. It is then continued with a 5-item purchase intention scale adopted from Dodds et al. (1991).
4. Respondents’ demographic information, such as gender, age group, marital status, occupation, current home ownership status, education qualification, annual income, and disposable income were measured in section D.

7.6 DATA ANALYSIS

7.6.1 Sample Profiles

A total of 850 data were collected, but 263 data were discarded. Data were removed due to straight-line responses, failed the additional screening questions (from the survey instrument Section A and C), or failed the attention checks. Out of 587; 173 respondents for supply-driven scarcity, 201 respondents for control, and 213 respondents for demand-driven scarcity were collected. The gender was almost equally distributed, in which male accounts for 300 respondents (51.1%) while female accounts for 287 respondents (48.9%). Majority of the respondents are the ages of 26-30 years old which accounts for 132 respondents (22.5%) and 31-35 years old which accounts for 124 respondents (21.1%). Most of the respondents were managers (30%), professionals (25%), and entrepreneurs (20%). A summary of the respondents profile is outlined in Table 7.1.

Table 7.1: Respondents Profile

Respondent Characteristic	Percentage			
	Pooled Sample (N=587)	Control condition (N= 201)	Demand-driven condition (N= 213)	Supply-driven condition (N= 173)
Sex				
Male	51.1	52.7	50.9	49.8
Female	48.9	47.3	49.1	50.2
Age				
18 – 21 years	2.7	2.5	6.3	4.7
22 – 34 years	15.5	18.4	11.6	16.0
35 – 44 years	42.6	49.3	52.0	42.3
45 – 54 years	21.0	20.4	18.5	25.3
55 – 70 years	8.2	9.4	11.6	11.7
Education				
Certificate	3.8	3.4	0.6	1.9
Advanced Diploma/ Diploma	14.0	15.9	14.5	13.7
Bachelor Degree	45.8	44.3	48.6	42.3
Graduate Diploma/ Graduate Certificate	21.3	20.0	22.5	23.1
Postgraduate Degree	12.1	12.9	12.7	14.6
Other	2.9	3.5	1.2	4.4
Income (Annual)				
AUD 0 – AUD 40,000	9.5	7.0	11.0	7.7
AUD 40,001 – AUD 80,000	17.4	9.0	23.1	18.8
AUD 80,001 – AUD 120,000	26.4	25.4	27.7	23.9
AUD 120,001 – AUD 160,000	23.7	27.9	20.8	28.2
AUD 160,001 – AUD 200,000	16.2	19.4	9.8	15.8
AUD 200,000 and above	6.8	11.4	7.5	5.6

7.6.2 Exploratory Factor Analysis (EFA)

An Exploratory Factor Analysis (EFA) was conducted on all the constructs employed in the study, separately for all experimental conditions (demand-driven, supply-driven, and control), to ascertain the dimensionality of the relevant factors. The maximum likelihood estimation method was used to analyse the factor loading since AMOS is going to be used for CFA and structural modelling (Hair et al., 2010). Given that established scales were employed in this study, the Oblimin with Kaiser Normalisation rotation method was used in the EFA (Hair et al., 2010). All loadings for each construct are ensured to be above 0.7 and items were removed if the factor loading was below 0.7 (Hair et al., 2010). For all experimental conditions, one item for perceived scarcity, two items for perceived value (quality value) and three items for self-efficacy were removed due to poor factor loading. The final model for all three experimental conditions revealed $KMO \geq 0.800$, Bartlett's Test of Sphericity = .000, indicating all constructs are unidimensional.

7.6.3 Common Method Bias

CMB effect was then examined for all experimental conditions separately by using the Harman's single-factor testing to control for the CMB influence and verify the outcome of the unrotated solution of the exploratory factor analysis. This test showed that the first-factor variance provide a value of: (1) 26.95 per cent (control condition); (2) 26.04 per cent (supply-driven condition); (3) 27.03 per cent (demand-driven condition). As recommended in the literature, all results accounts less than 50 per cent of the all variables in the model (Baumgartner and Steenkamp, 2001; Craighead et al., 2011; MacKenzie and Podsakoff, 2012). As such, common method bias effect is not present in this study design.

7.6.4 One-Factor Congeneric Models

The eight constructs in the research model were then refined through Confirmatory Factor Analysis (CFA) using one-factor congeneric models with AMOS 25. The eight constructs in the research model included: (1) perceived scarcity; (2) perceived competition; (3) perceived value (social value); (4) perceived value (emotional value); (5) perceived value (monetary value); (6) perceived value (quality value); (7) purchase intention; and (8) self-efficacy.

Initially, some constructs were deemed as unacceptable fit. After modifying the model according to the suggested accommodation indices, all constructs had acceptable goodness-of-fit indices ($\chi^2/df \leq 3.0$, $RMSEA \leq 0.08$, $GFI \geq 0.90$, $CFI \geq 0.90$, $NFI \geq 0.90$) as suggested by Baumgartner and Homburg (1996). A summary of these goodness-of-fit indices for all experimental conditions can be seen in Table 7.2 (control condition); Table 7.3 (supply-driven condition); and Table 7.4 (demand-driven condition).

Table 7.2: One-factor Congeneric – Control Condition

Construct	Parameter Estimates	χ^2	df	RMSEA	GFI	CFI	NFI
Perceived scarcity		1.901	1	.037	.994	.996	.991
There is only limited seats available at the restaurant	.769						
The availability to dine at the restaurant is scarce	.938						
I can get reservation easily (R)	.784						
Perceived competition		1.995	2	.051	.990	.996	.993
I feel competition with other customers to dine at the restaurant.	.912						
I feel like I am competing with other customers for table reservation.	.932						
I feel like others will get the table reservation if I am not fast enough.	.767						
I feel conscious about other customers' behaviour prior to make reservation at the restaurant.	.740						
Perceived value (emotional value)		1.516	4	.051	.988	.998	.994
It is a restaurant that I will enjoy	.936						
It will make me want to experience it	.920						
It is a restaurant that I will feel comfortable about experiencing	.850						
It makes me feel good	.864						
It gives me pleasure	.879						
Perceived value (quality value)		1.002	1	.003	.997	.999	.996
The food and service has consistent quality	.819						
The restaurant seems to have an acceptable standard of food and service quality	.798						
The restaurant seems to have reliable food and services quality	.836						
Perceived value (social value)		.485	1	< .001	.998	.999	.999
Dining at the restaurant will improve the way I am perceived	.886						
Dining at the restaurant will make a good impression on other people	.922						
Dining at the restaurant will give me social approval from other people	.914						
Perceived value (monetary value)		1.860	1	.066	.994	.998	.996
It is reasonably priced	.834						
It offers value for money	.972						
It is a good restaurant for the price	.855						
Purchase intention		.112	1	< .001	.999	.999	.999
I have a high likelihood of dining at the ____	.812						
I intend to dine at the _____	.883						
In near future, I absolutely plan to dine in at the _____	.975						
I definitely expect to dine in at the _____	.775						
Self-Efficacy		2.693	1	.042	.991	.997	.996
I have the skills and knowledge required to dine in at the restaurant	.912						
I am able to dine in without the help of others	.950						
I have the financial resources required to dine in at the restaurant	.938						

Table 7.3: One-factor Congeneric – Supply-Driven Condition

Construct	Parameter Estimates	χ^2	df	RMSEA	GFI	CFI	NFI
Perceived scarcity		1.259	1	.039	.995	.999	.995
There is only limited seats available at the restaurant	.814						
The availability to dine at the restaurant is scarce	.966						
I can get reservation easily (R)	.779						
Perceived competition		2.261	2	.066	.987	.995	.992
I feel competition with other customers to dine at the restaurant.	.899						
I feel like I am competing with other customers for table reservation.	.961						
I feel like others will get the table reservation if I am not fast enough.	.839						
I feel conscious about other customers' behaviour prior to make reservation at the restaurant.	.740						
Perceived value (emotional value)		.938	2	< .001	.995	.999	.996
It is a restaurant that I will enjoy	.897						
It will make me want to experience it	.884						
It is a restaurant that I will feel comfortable about experiencing	.785						
It gives me pleasure	.902						
Perceived value (quality value)		.001	1	< .001	.999	.999	.999
The food and service has consistent quality	.873						
The restaurant seems to have an acceptable standard of food and service quality	.886						
The restaurant seems to have reliable food and services quality	.844						
Perceived value (social value)		.195	1	< .001	.999	.999	.999
Dining at the restaurant will improve the way I am perceived	.881						
Dining at the restaurant will make a good impression on other people	.931						
Dining at the restaurant will give me social approval from other people	.922						
Perceived value (monetary value)		.031	1	< .001	.999	.999	.999
It is reasonably priced	.878						
It offers value for money	.957						
It is a good restaurant for the price	.835						
Purchase intention		.683	1	< .001	.998	.999	.999
I have a high likelihood of dining at the ____	.774						
I intend to dine at the _____	.878						
In near future, I absolutely plan to dine in at the _____	.937						
I definitely expect to dine in at the _____	.955						
Self-Efficacy		.842	1	< .001	.997	.999	.998
I have the skills and knowledge required to dine in at the restaurant	.931						
I am able to dine in without the help of others	.950						
I have the financial resources required to dine in at the restaurant	.914						

Table 7.4: One-factor Congeneric – Demand-Driven Condition

Construct	Parameter Estimates	χ^2	df	RMSEA	GFI	CFI	NFI
Perceived scarcity		1.416	1	.044	.996	.998	.994
There is only limited seats available at the restaurant	.781						
The availability to dine at the restaurant is scarce	.856						
I can get reservation easily (R)	.733						
Perceived competition		2.605	1	.071	.989	.995	.993
I feel competition with other customers to dine at the restaurant.	.987						
I feel like I am competing with other customers for table reservation.	.904						
I feel like others will get the table reservation if I am not fast enough.	.738						
Perceived value (emotional value)		1.384	4	.043	.989	.999	.995
It is a restaurant that I will enjoy	.853						
It will make me want to experience it	.870						
It is a restaurant that I will feel comfortable about experiencing	.823						
It makes me feel good	.958						
It gives me pleasure	.923						
Perceived value (quality value)		.381	1	< .001	.999	.999	.999
The food and service has consistent quality	.755						
The restaurant seems to have an acceptable standard of food and service quality	.798						
The restaurant seems to have reliable food and services quality	.840						
Perceived value (social value)		.037	1	< .001	.999	.999	.999
Dining at the restaurant will help me to feel acceptable among others.	.870						
Dining at the restaurant will improve the way I am perceived	.936						
Dining at the restaurant will make a good impression on other people	.878						
Dining at the restaurant will give me social approval from other people	.880						
Perceived value (monetary value)		1.496	1	.048	.995	.999	.996
It is reasonably priced	.808						
It offers value for money	.924						
It is a good restaurant for the price	.774						
Purchase intention		.397	1	< .001	.999	.999	.999
I have a high likelihood of dining at the ____	.850						
I intend to dine at the _____	.845						
In near future, I absolutely plan to dine in at the	.922						
Self-Efficacy		.030	1	< .001	.999	.999	.999
I have the skills and knowledge required to dine in at the restaurant	.959						
I am able to dine in without the help of others	.903						
I have the financial resources required to dine in at the restaurant	.941						

7.6.5 Measurement Model

The maximum likelihood estimation method was used to analyse the factor loading across the three different scarcity conditions (supply-driven, demand-driven, and control). In this section, measurement models for all dimensions of perceived value and for the full measurement model were created.

7.6.5.1 Perceived Value

The different dimensions of perceived value (emotional, social, quality, and monetary) are converted as composite variables to minimise items included in full measurement model and path analysis. Prior to creating a composite variable and analysing path analysis using grouping variable (scarcity condition), configural and metric invariance must be tested to ensure that the factor structure and loadings are sufficiently equivalent across groups (Steenkamp & Baumgartner, 1998; Ariely & Davidov, 2012).

First, configural invariance was tested to ensure the factor structure of all groups achieves adequate fit when tested together and freely (Horn & Mcardle, 1992; Vandenberg & Lance, 2000). Using only the items remained after one-factor congeneric analysis, an analysis was run to test model fit between the three conditions. Initially, the model was deemed unfit and the modification indices were examined for possible solutions. A model fit was finally achieved after necessary changes was made. A summary of the factor loading for each construct and group along with the goodness-of-fit indices is available in Table 7.5.

Table 7.5: Measurement Model – Perceived Value for All Groups

Construct	Parameter Estimates		
	Control	Supply	Demand
Perceived value (emotional value)			
It is a restaurant that I will enjoy	.881	.918	.917
It makes me want to experience it	.973	.855	.913
Perceived value (quality value)			
The restaurant seems to have an acceptable standard of food and service quality	.866	.918	.741
The restaurant seems to have reliable food and service quality	.793	.853	.828
Perceived value (social value)			
It will improve the way I am perceived	.936	.953	.845
It will give me social approval from other people	.868	.854	.977
Perceived value (monetary value)			
It is reasonably priced	.901	.870	.841
It offers value for money	.885	.964	.870
$\chi^2 = 61.366$ df = 45 RMSEA = .025 GFI = .975 CFI = .994 NFI = .978			

Since configural invariance was achieved, the next step is to test for metrics invariance to ensure the factor loadings for each item between groups are not significantly different. Following the suggestion of Kline (2005), the test constrained the factor loading of each item to its underlying construct and then compared the constrained model with a base model without loading constraints (Zhan & He, 2012). The three models were not significantly different ($\Delta\chi^2 = 213.905$, $df = 11$, $p = .238$), indicating that there is no factor loading invariance across the three conditions.

Since the measurement model showed perceived value passed configural and metric invariance, the items for each dimension of perceived value were aggregated, resulting in a four-item scale in which each item represents one perceived value dimension.

7.6.5.2 Full Measurement Model

The measurement model initially did not reveal a good fit, thus measurement re-specification was performed (Hair et al., 2010). After re-specification, overall goodness-of-fit indices were satisfactory [$\chi^2 = 116.054$, $df = 96$, $p = .080$, $RMSEA = .019$, $RMR = .120$, $AGFI = .925$, $CFI = .994$]. The model fit indices for all the groups are presented in Table 7.6.

Table 7.6: Measurement Model – All Constructs for All Groups

Construct	Parameter Estimates		
	Control	Supply	Demand
Perceived scarcity			
There are only limited seats available at the restaurant	.802	.768	.752
I can get reservation easily (R)	.782	.723	.788
Perceived competition			
I feel competition with other customers to dine at the restaurant	.989	.882	.901
I feel like I am competing with other customers for table reservation	.864	.982	.988
Perceived value			
Social value	.882	.862	.852
Emotional value	.812	.973	.952
Quality value	.756	.795	.765
Monetary value	.781	.734	.759
Purchase intention			
I intend to dine at _____	.886	.875	.886
In the near future, I absolutely plan to dine at the _____	.880	.928	.880
Self-efficacy			
I have the skills and knowledge required to dine in at the restaurant	.978	.982	.958
I have the financial resources required to dine in at the restaurant	.975	.893	.901
$\chi^2 = 116.054$ $df = 96$ RMSEA = .019 GFI = .969 CFI = .994 NFI = .966			



7.6.5.3 Validity and Reliability

The analysis examined the reliability and convergent validity of the measurement model through composite reliability (CR) and average variance extracted (AVE) (Fornell & Larcker, 1981). After analysis, all the composite reliabilities were higher than 0.70, which indicated an acceptable level of reliabilities (Hair et al., 2010). The AVE of each measure also indicated acceptable internal validity as all measures were larger than 0.5 (Hair et al., 2010).

To measure discriminant validity, the square root of AVEs should be higher than any inter-construct correlations to prove each construct has more error-free variance than variance shared with other constructs. After analysis, all AVEs were greater than SIC, demonstrating acceptable discriminant validity between constructs. It signifies that there is no threat from multicollinearity among the constructs. Table 7.7 showed the measurement model – Reliability, Convergent Validity, and Discriminant Validity of all three scarcity conditions.

Table 7.7: Measurement Results – Reliability, Convergent Validity and Discriminant Validity

	CR	AVE	MSV	MAXR (H)	PURCHASE	SCARCITY	COMP	VALUE	SELF_EFF
PURCHASE	0.829	0.707	0.081	0.829	0.841				
SCARCITY	0.784	0.614	0.148	0.590	-0.220	0.643			
COMP	0.926	0.862	0.148	0.979	-0.142	0.385	0.929		
VALUE	0.769	0.551	0.231	0.747	0.029	0.043	0.373	0.592	
SELF_EFF	0.925	0.861	0.231	0.962	0.285	-0.257	0.027	0.481	0.928

 Square root of AVE
 Inter-construct Correlation

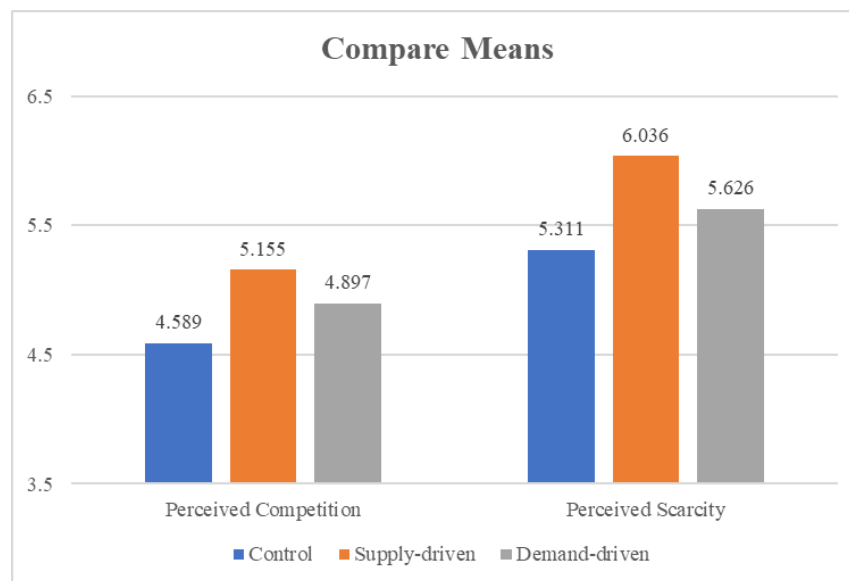
7.6.6 Hypothesis Testing

7.6.6.1 Hypothesis Testing – H1 and H2

Hypotheses H1 and H2 are aimed at addressing RQ1 – to determine the strength of the effect of the various scarcity types (demand-driven, supply-driven and control condition) on perceived scarcity and perceived competition in the context of luxury restaurants.

To test hypotheses H1 and H2, a one-way between-subjects ANOVA was conducted to measure the significant difference of perceived scarcity and perceived competition in high demand, low supply, and no scarcity cue conditions. Composite variables were created from the remaining items of perceived scarcity and perceived competition after CFA reduction. The composite variables were calculated through SPSS by taking into account that each item has different factor loading. Figure 7.5 showed the results for both perceived scarcity and competition.

Figure 7.5: Compare Means – Perceived Scarcity and Perceived Competition



H1. Perceived scarcity is not significantly different in both demand-driven and supply-driven scarcity conditions, but is significantly lower in the control condition.

The results revealed that there was a significant effect of the different scarcity cue on perceived scarcity at the $p < 0.05$ level for the three conditions [$F(2,574) = 22.348$, $p < .001$]. Post Hoc comparisons using the Bonferroni test indicated that the mean score for control condition ($M = 5.311$, $SD = 1.10$) was significantly lower than the high-demand scarcity cue and low-supply scarcity cue. Interestingly, the supply-driven scarcity cue ($M = 6.036$, $SD = 1.03$) was significantly higher than the demand-driven scarcity cue ($M = 5.626$, $SD = 0.99$). Therefore, H1 is partially supported.

H2. Perceived competition is not significantly different in both demand-driven and supply-driven scarcity conditions, but is significantly lower in the control condition.

The results revealed that there was a significant effect of the different scarcity cue on the perceived competition at the $p < 0.05$ level for the three conditions [$F(2,574) = 5.982, p < .001$]. Post Hoc comparisons using the Bonferroni test indicated that the mean score for the control condition ($M = 4.584, SD = 1.66$) was significantly lower than the supply-driven scarcity cue ($M = 5.155, SD = 1.63$) but not significantly lower than the demand-driven scarcity cue ($M = 4.897, SD = 1.52$). Moreover, there is no significant difference between supply-driven scarcity cue and the demand-driven scarcity cue in term of perceived competition. Therefore, H2 is partially supported. The results of the hypothesis testing H1 and H2 for all scarcity groups are summarised in Table 7.8.

Table 7.8: H1 and H2 – Standardised Path Coefficients

Hypothesis	Cond	Cond	Mean Difference	Sig.	Supported/ Not Supported
H1. Perceived scarcity is not significantly different in both demand-driven and supply-driven scarcity conditions but is significantly lower in control condition.	Control	Limited Edition	-0.725	< .001	Partially Supported
	Control	Nearly Sold Out	-0.315	.007	
	Limited Edition	Nearly Sold Out	0.410	< .001	
H2. Perceived competition is not significantly different in both demand-driven and supply-driven scarcity conditions but is significantly lower in control condition.	Control	Limited Edition	-0.571	.002	Partially Supported
	Control	Nearly Sold Out	-0.313	.142	
	Limited Edition	Nearly Sold Out	0.259	.346	

7.6.6.2 Hypothesis Testing – H3 to H6

Hypotheses H3 to H5 are aimed at addressing RO3, RO4 and RO5 - to evaluate consumers perceived competition and scarcity towards various scarcity types and how it influences perceived value and purchase intention within luxury restaurant context.

Hypothesis H6 is aimed at addressing RO5 – to examine the role of self-efficacy in moderating the relationship between perceived value and purchase intention. The variables were mean-centred before creating the interaction term to reduce the potential problem of multicollinearity (Aiken & West, 1991; Balaji et al., 2016). The correlation between perceived value, self-efficacy and the interaction term were also freely estimated because they were assumed to be related in this study.

To test hypotheses H3 to H6, a structural model was analysed in AMOS 25. This study adopted the procedure by Jap and Anderson (2003).

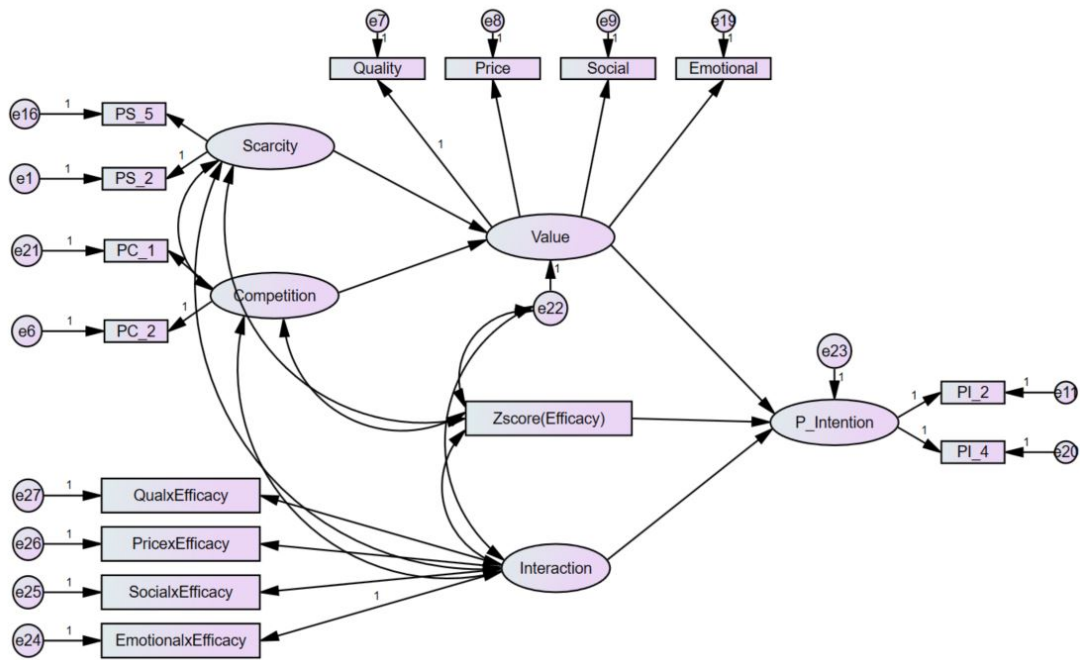
Step One - Single-group Estimation

The analysis first estimated three single-group models separately for the three scarcity conditions to evaluate the extent to which the hypothesized structural model was able to account for the covariance matrix (Zhan & He, 2012). Correlations between the two independent variables, perceived scarcity and perceived competition, were freely estimated because these variables are related to each other in the research context (Jap & Anderson, 2003). For the supply-driven condition, the model had a Chi-square of 24.204 (df = 22, p = .337), with a CFI of .997, TLI of .994 and RMSEA of .024. For the control condition, the model had a Chi-square of 28.200 (df = 20, p = .105), with a CFI of .988, TLI of .973, and RMSEA of .045. For the demand-driven condition, the model had a Chi-square of 38.230 (df = 20, p = .086) with a CFI of .978 and TLI of .951. The RMSEA was .066. Taken together, these results suggest that the structural model accounted well for the covariance structure in all groups.

Step Two - Two-Group Estimation

Next, the analysis estimated two models in the two-group estimation process. The first was a baseline model, in which the structural model was simultaneously estimated for all scarcity groups, and all parameters were freely estimated across the groups. This model had a Chi-square of 55.081 (df = 48, p = .224), with a CFI of .997 and a TLI of .991. The RMSEA was .016. Thus, the three-group model provided a satisfactory fit for the data. The model fit indices for all group presented in figure 7.6.

Figure 7.6: Structural Model Results – All Groups



Chi Square = 55.081 d.f = 48 p = .224 RMSEA = .016 CFI = .997

The second model constrained all the gamma coefficients to be equal across the three groups. The constrained model is then compared to the baseline model, and the difference in chi-squares—the likelihood ratio (LR)—tested the null hypothesis that the parameters were equivalent. If all parameters are not significantly different across groups, it indicates there is no interaction effect found. Since this study has three groups, three analyses were done in which two groups were analysed for each analysis. The analysis revealed that the gamma coefficients was not significantly different in all testing. The result showed control and demand-driven condition (LR = 4.872; df = 4; $p \geq 0.05$), control and supply-driven condition (LR = 1.539; df = 4; $p \geq 0.05$) and supply-driven and demand-driven scarcity condition (LR = 3.650; df = 4; $p \geq 0.05$). Thus, the analysis did not proceed to the next step.

Since there is no interaction effect between all the three scarcity conditions, the parameters should be constrained to be equal across groups. This revised model was used to test hypotheses H3 to H6.

H3. *Perceived scarcity has a positive influence on perceived value.*

The results showed that perceived scarcity has no significant influence on perceived value in all scarcity conditions (Demand-driven: $\beta = .132$, $p \geq .05$; Supply-driven: $\beta = .002$, $p \geq .05$; Control: $\beta = -.217$, $p \geq .05$), therefore rejecting H3.

H4. *Perceived competition has a positive influence on perceived value.*

On the other hand, the results showed that perceived competition has positive and significant influence in all scarcity conditions (Demand-driven: $\beta = .396$, $p \leq .05$; Supply-driven: $\beta = .390$, $p \leq .05$; Control: $\beta = .550$, $p \leq .001$), hence supporting H4.

H5. *Perceived value has a positive influence on purchase intention for the elite brand.*

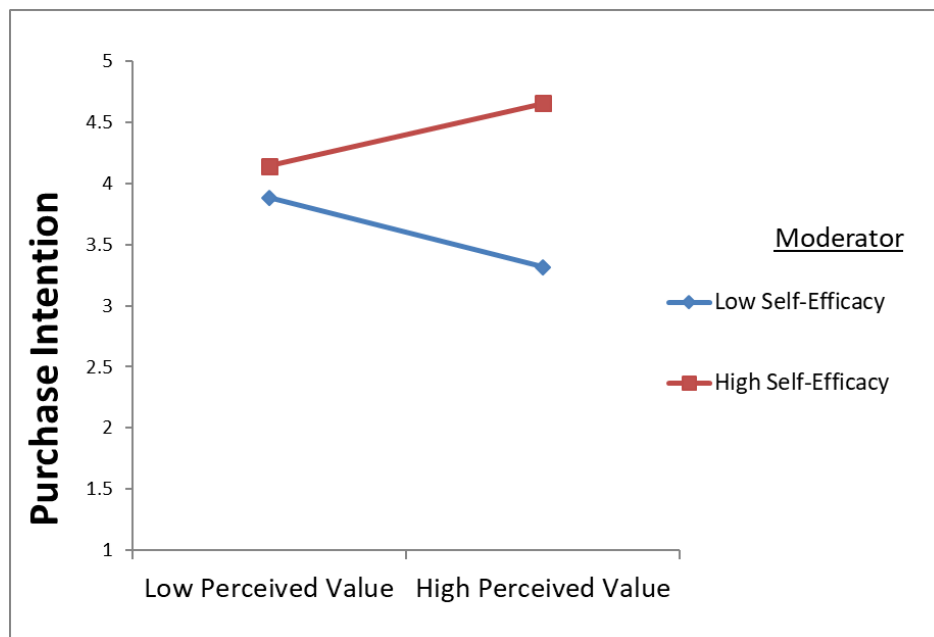
H5 is rejected as the analysis showed that perceived value has significant yet negative influence in demand-driven conditions ($\beta = -.220$, $p \leq .05$), and no significant effect found in both supply-driven ($\beta = -.023$, $p \geq .05$) and control conditions ($\beta = -.003$, $p \geq .05$).

H6. *Self-efficacy strengthens the relationship between perceived value and purchase intention for the elite brand.*

The results showed that self-efficacy moderates the relationship between perceived value and purchase intention of the desired brands in both control ($\beta = .267$, $p \leq .05$) and supply-driven scarcity conditions ($\beta = .180$, $p \leq .05$), but not in demand-driven scarcity condition ($\beta = .035$, $p \geq .05$). Therefore, H6 is partially supported. The following figures showed the moderation effect in all experimental conditions.

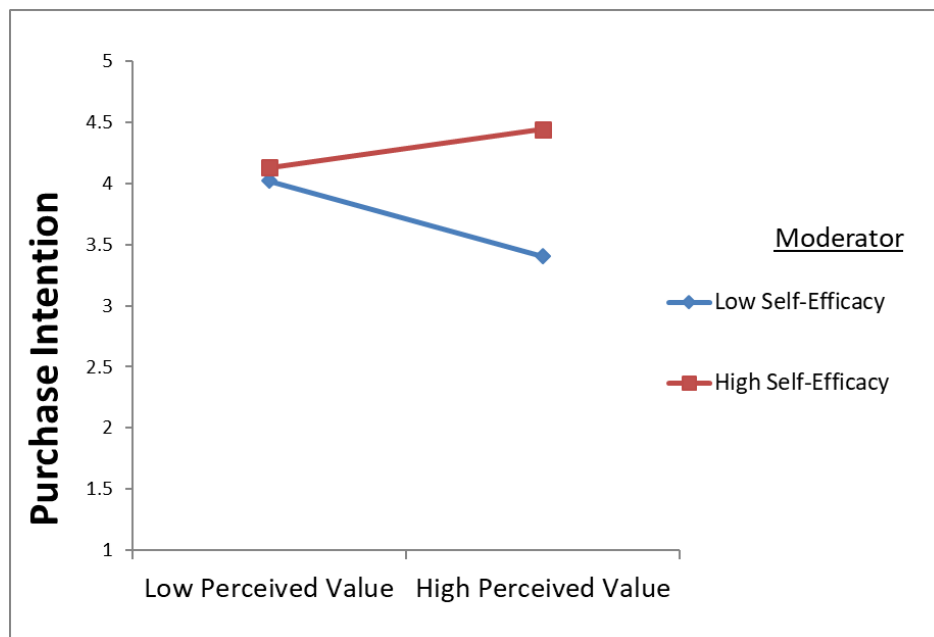
As can be seen in Figure 7.7, self-efficacy moderates the relationship between perceived value and purchase intention in the control condition (interaction term $\beta = .267, p \leq .05$). Self-efficacy dampens the negative relationship between perceived value and purchase intention. The high self-efficacy has a positive slope, on the other hand, the low self-efficacy has a negative slope.

Figure 7.7: Moderating Role of Self-efficacy on Purchase Intention – Control Condition



Similarly, for the supply-driven condition, the results showed there is interaction effect between perceived value and self-efficacy on purchase intention (interaction term $\beta = .180, p \leq .05$). As presented in Figure 7.8, there is a gradual rise in the high self-efficacy slope while the slope for low self-efficacy declines. The result indicates self-efficacy reduce the negative effect between perceived value and purchase intention.

Figure 7.8: Moderating Role of Self-efficacy on Purchase Intention – Supply-Driven Condition



On the other hand, in the demand-driven condition, the results showed there is no interaction between perceived value and self-efficacy on purchase intention (interaction term $\beta = .035$, $p \geq .05$). The results of the hypothesis testing H3 to H6 for all scarcity groups are summarised in Table 7.9.

Table 7.9: H3 to H6 – Standardised Path Coefficients

Hypothesis Structural Path	Supply-Driven		Control		Demand-Driven		Supported/ Not Supported
	Standardised coefficient	SE	Standardised coefficient	SE	Standardised coefficient	SE	
H3. Perceived scarcity → Perceived value	.002	.057	-.217	.053	.132	.113	Not Supported
H4. Perceived competition → Perceived value	.390***	.033	.550***	.031	.396***	.038	Supported
H5. Perceived value → Purchase intention	-.023	.127	-.003	.608	-.220***	.289	Not Supported
H6: Self-efficacy strengthens the relationship between perceived value and purchase intention of the elite brands in all scarcity conditions.							Partially Supported
Perceived value → Purchase intention	-.023	.127	-.003	.608	-.220***	.289	
Self-efficacy → Purchase intention	.210***	.107	.267***	.145	.470***	.702	
Interaction → Purchase intention	.180***	.107	.267***	.124	.035	.077	

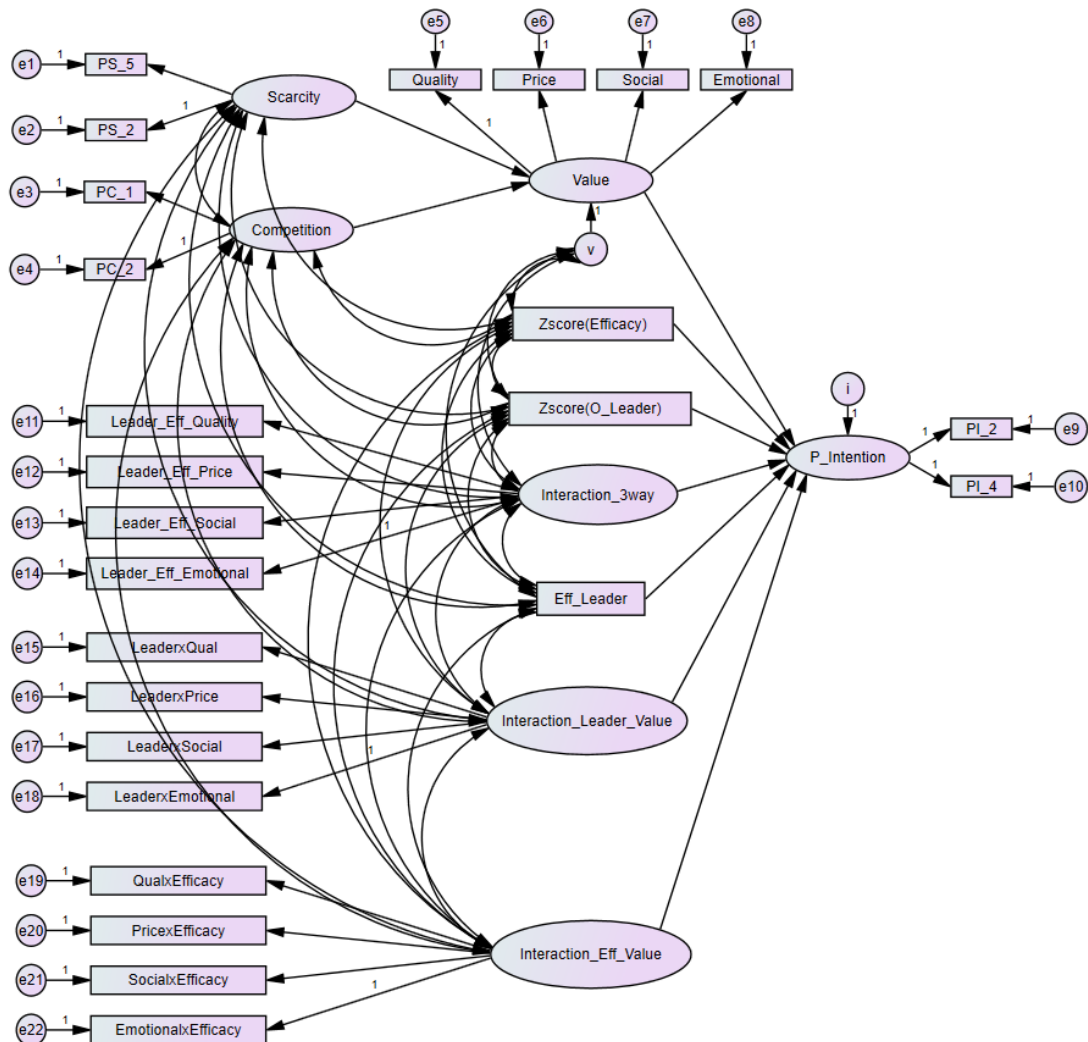
7.6.6.3 Hypothesis Testing – H7

Hypotheses H7 are aimed at addressing RO6 – to examine the role of opinion leadership/seeking in moderating the relationship between perceived value and purchase intention. Since self-efficacy is treated as part of the base model, the following analysis performs a three-way interaction between self-efficacy, perceived value and opinion leadership/seeking to purchase intention. Similar to the self-efficacy variable, the variables were mean-centred before creating the interaction term to reduce the potential problem of multicollinearity (Aiken & West, 1991; Balaji et al., 2016). The correlation between all independent variables were also freely estimated (Zhan & He, 2012). Two different models were created; the first model, measuring the moderating role of opinion leader and self-efficacy on purchase intention, had a Chi-square of 1052.484 ($df = 610$, $p < .001$), with a CFI of .925 and a TLI of .975. The RMSEA was .045. The second model, measuring the moderating role of opinion seekers and self-efficacy on purchase intention, had a Chi-square of 1608.165 ($df = 676$, $p < .001$), with a CFI of .924 and a TLI of .965. The RMSEA was .039. As

suggested by Vandenberg (2006) and Schermelleh-Engel, Moosbrugger, and Müller (2003), p-value is no longer relied upon as a basis for acceptance or rejection. Thus, despite the unsatisfactory p-value for both models ($p < 0.05$), the other indicators provided a satisfactory fit for the data.

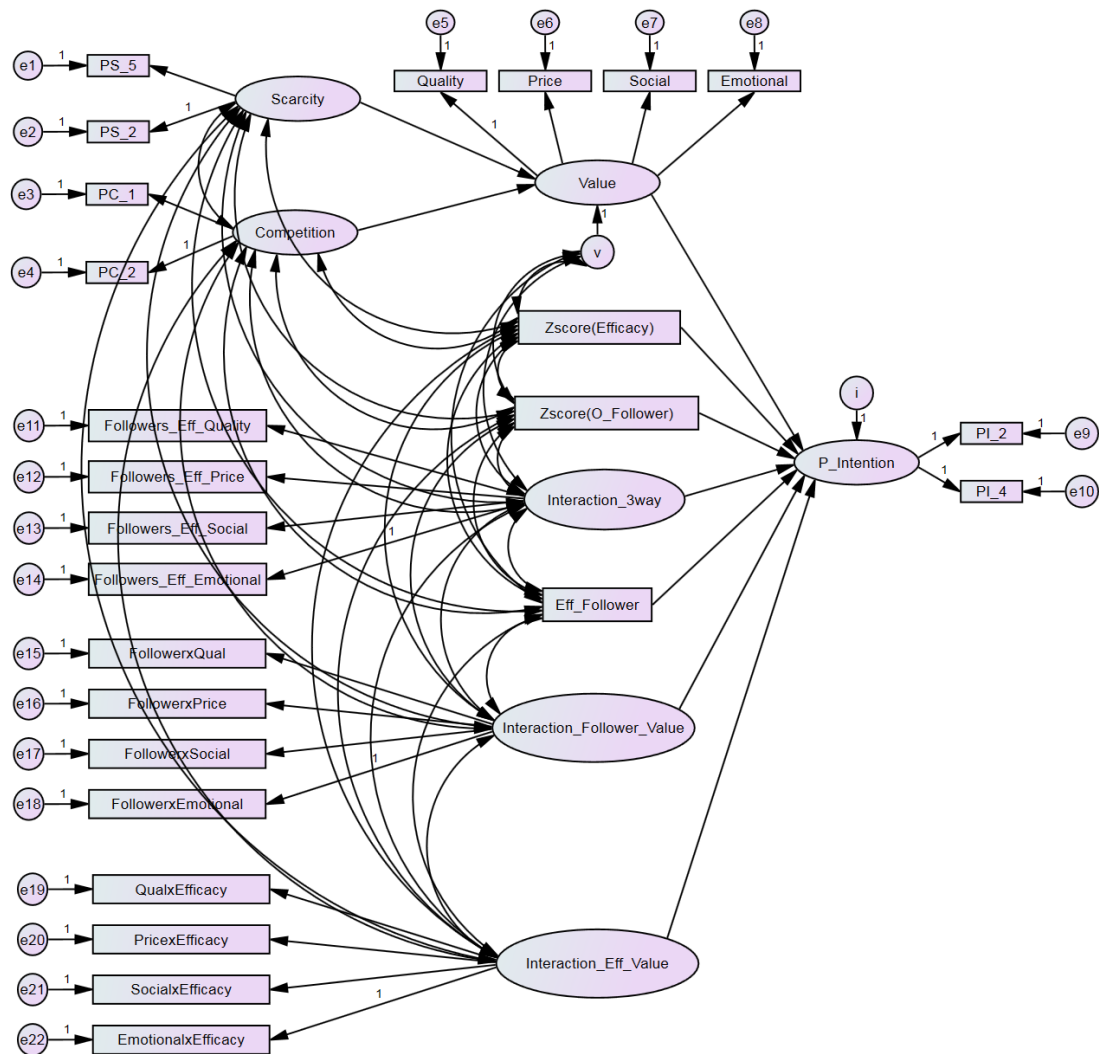
Figure 7.9 presented the model fit indices for all groups to estimate the moderating role for opinion leader and self-efficacy while Figure 7.10 showed the model fit indices for all groups to estimate the moderating role for opinion seekers and self-efficacy.

Figure 7.9: Moderating Role of Opinion Leadership and Self-efficacy on Purchase Intention



Chi Square = 1052.484 d.f = 610 $p < .001$ RMSEA = .045 CFI = .925

Figure 7.10: Moderating Role of Opinion Seeking and Self-efficacy on Purchase Intention



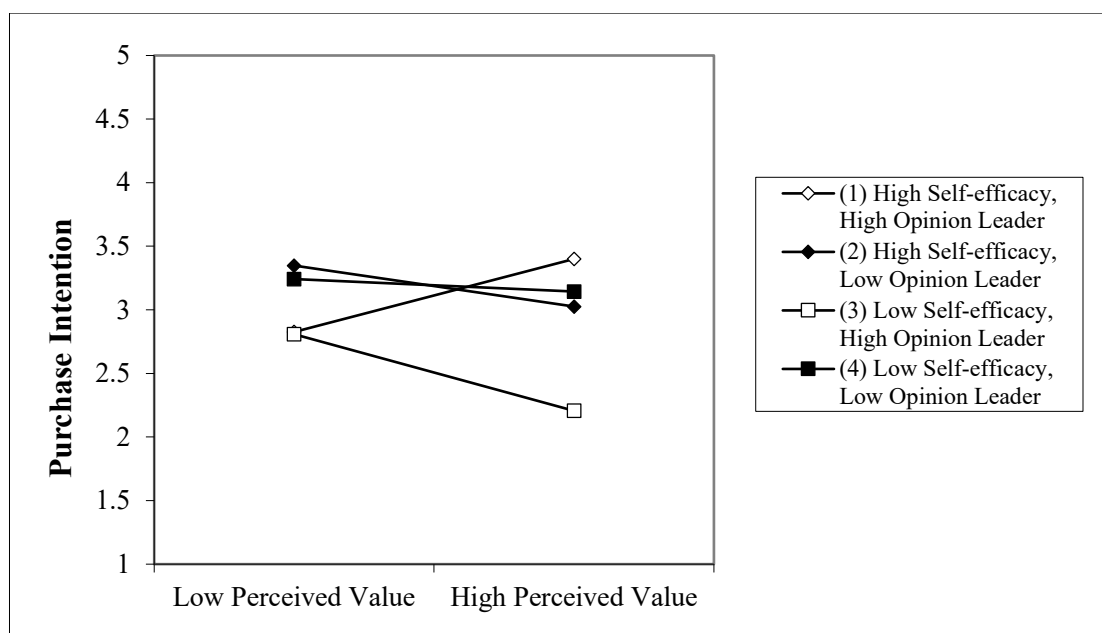
Chi Square = 1608.165 d.f = 676 p < .001 RMSEA = .039 CFI = .924

H7a. Only in supply-driven scarcity condition, a three-way interaction will be observed for the relationship between perceived value, self-efficacy and opinion leadership on purchase intention. Specifically, the level of opinion leadership enhances the moderation of self-efficacy on the relationship between perceived value and purchase intention.

In line with the hypothesis, the results showed that, only in supply-driven scarcity condition, opinion leader and self-efficacy moderate the relationship between perceived value and purchase intention of the desired brands.

As can be seen in Figure 7.11, opinion leadership and self-efficacy moderates the relationship between perceived value and purchase intention in the supply-driven scarcity condition (interaction term $\beta = .175, p \leq .05$). When both self-efficacy and opinion leadership are high, the intention to purchase increases significantly. Interestingly, when self-efficacy is low, the intention to purchase remains low although opinion leadership is high. This result showed that self-efficacy was indeed an important factor to purchase intention.

Figure 7.11: Moderating Role of Opinion Leadership, Self-efficacy and Perceived Value on Purchase Intention – Supply-driven Condition



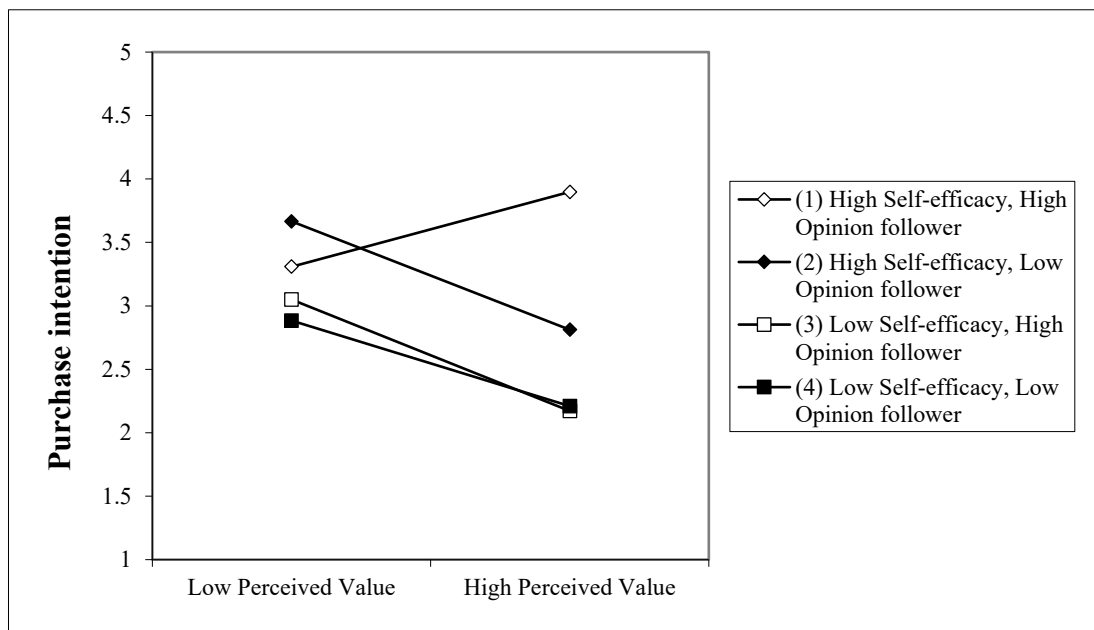
On the other hand, in both control and demand-driven scarcity condition, the results showed there is no interaction between perceived value, self-efficacy and opinion leader on purchase intention (interaction term, control $\beta = .073, p \geq .05$; demand-driven $\beta = -.112, p \geq .05$).

H7b. *Only in demand-driven scarcity condition, a three-way interaction will be observed for the relationship between perceived value, self-efficacy and opinion seeker on purchase intention. Specifically, the level of opinion seeking enhances the moderation of self-efficacy on the relationship between perceived value and purchase intention.*

In line with the hypothesis, the results showed that, only in supply-driven scarcity condition, opinion seekers and self-efficacy moderate the relationship between perceived value and purchase intention of the desired brands.

As can be seen in Figure 7.12, opinion seeking and self-efficacy moderates the relationship between perceived value and purchase intention in the supply-driven scarcity condition (interaction term $\beta = .206, p \leq .05$). When both self-efficacy and opinion seeking are high, the intention to purchase increases significantly. On the other hand, when both self-efficacy and opinion seeking are low, the intention to purchase decreases rapidly. Despite high self-efficacy, similar result also found when the opinion seeking is low.

Figure 7.12: Moderating Role of Opinion Seeking, Self-efficacy and Perceived Value on Purchase Intention – Demand-driven Condition



On the other hand, in both control and supply-driven scarcity condition, there is no significant three-way interaction between perceived value, self-efficacy and opinion seeking on purchase intention (interaction term, control $\beta = .106, p \geq .05$; supply-driven $\beta = .003, p \geq .05$).

As seen in Table 7.10 the results of the hypothesis testing for H7 reveals the hypothesis is supported.

Table 7.10: H7 – Standardised Coefficient Results

Hypothesis Structural Path	Supply-Driven		Control		Demand-Driven		Supported/ Not Supported
	Standardised coefficient	SE	Standardised coefficient	SE	Standardised coefficient	SE	
H7a: Only in supply-driven scarcity condition, a three-way interaction will be observed for the relationship between perceived value, self-efficacy and opinion leadership on purchase intention. Specifically, the level of opinion leadership enhances the moderation of self-efficacy on the relationship between perceived value and purchase intention.							
Perceived value → Purchase intention	-.056	.268	.019	.725	-.273***	.353	Supported
Self-efficacy → Purchase intention	.150***	.108	.246***	.161	.558***	.144	
Opinion leadership → Purchase intention	-.019	.113	-.083	-.120	.096	.125	
Leadership_value → Purchase intention	.049	.052	-.012	-.019	-.091	.162	
Efficacy_value → Purchase intention	.119	.117	.274***	.413	.040	.147	
Efficacy_leadership → Purchase intention	.153***	.103	-.056	-.076	.068	.114	
Three-way interaction → Purchase intention	.175***	.118	.073	.133	-.112	.262	
H7b: Only in demand-driven scarcity condition, a three-way interaction will be observed for the relationship between perceived value, self-efficacy and opinion seeker on purchase intention. Specifically, the level of opinion seeking enhances the moderation of self-efficacy on the relationship between perceived value and purchase intention.							
Perceived value → Purchase intention	.001	.271	-.026	.661	-.227***	.344	Supported
Self-efficacy → Purchase intention	.201***	.108	.251***	.154	.421***	.136	
Opinion seeking → Purchase intention	-.082	.118	-.012	.145	.107	.115	
Seeking_value → Purchase intention	-.006	.074	.047	.145	.155	.157	
Efficacy_value → Purchase intention	.197***	.117	.223***	.150	.161	.143	
Efficacy_Seeking → Purchase intention	.004	.104	-.014	.137	.075	.107	
Three-way interaction → Purchase intention	.003	.073	.106	.098	.206***	.208	

7.7 DISCUSSION

H1 investigated the effect strength of various scarcity cue conditions (supply-driven, demand-driven, and control) to perceived scarcity. It was proposed that scarcity perception is not significantly different in supply- and demand-driven scarcity cue conditions, but is significantly lower in the control condition. The hypothesis was partially supported. Supporting the hypothesis, the perceived scarcity in the control condition was significantly lower as compared to both demand- and supply-driven scarcity cue conditions. Nonetheless, the perceived scarcity in supply-driven scarcity cue condition was significantly higher as compared to the demand-driven scarcity cue condition. In other words, luxury fine-dining restaurants which only serve limited seats a day are perceived to be scarcer than luxury fine-dining restaurant which presented as limited due to high demand.

These interesting findings may be explained by the nature of the product categories chosen for the study. As identified previously, the skills and knowledge possessed by the head chef is the scarce element within a luxury fine-dining restaurant. Therefore, unlike products which are not perishable, limitations in the kitchen's capacity and space availability limit the number of patrons that can be catered for in a given day. Serving too many customers at the same time may jeopardise food and quality which, in turn, affects the brand image negatively. Furthermore, the ingredients used may also be rare. Hence, limiting the consumers served. For example, SakaMai, a fine-dining Japanese restaurant in New York, only serves three of their wagyu sandwiches each day as it uses a very exclusive form of A5 wagyu beef from Miyazaki Prefecture, Japan and it is extremely difficult to obtain. Therefore, when a restaurant is perceived to be scarce due to limited supply, consumers perceive that there are limited seats available or shortage in term of the raw ingredients. It has natural shortages which both the consumers and the restaurants have no control over its availability. On the other hand, the scarcity elicited by demand-driven scarcity cue condition is resultant to popularity; there is no indication of product shortage. As a result, luxury fine-dining restaurants which are scarce due to limited supply, are perceived to be scarcer as compared to luxury fine-dining restaurants which are scarce due to high demand.

H2 examined the effect strength of various scarcity cue conditions (supply-driven, demand-driven, and control) to perceived competition. It was proposed that

competition perception is not significantly different in both supply- and demand-driven scarcity cue conditions but is significantly lower as compared to control condition. In line with the hypothesis, the perceived competition in the supply-driven scarcity cue condition was not significantly different as compared to demand-driven scarcity cue condition, but was significantly higher than in control condition. In contrary to the hypothesis, however, there was no significant difference between demand-driven scarcity cue and control conditions. Thus, **H2** was partially supported.

This finding indicated that heuristic scarcity cues are not an effective signalling method in imposing the perception of competition for luxury fine-dining restaurants. This result may again be explained by examining the nature of experiential services. Unlike tangible products where the quantity is limited to a manufacturing cycle and may no longer be available once discontinued, services do not rely on the manufacturing cycle and are perceived to be constant in their supply. Furthermore, since food consumption is a primary need for every human being; the consumption frequency for food is relatively higher as compared to the consumption frequency for tangible products (publicly or privately consumed). As such, there is no urgency in purchasing the services as consumers are able to go another time without worrying about the availability. Thus, consumers may choose to delay their purchase if the restaurant is fully booked on that particular day, hence there is no urgency involved in the purchase.

H3 examined the influence of perceived scarcity towards perceived value. It was hypothesised that in all scarcity conditions, perceived scarcity has a positive influence on perceived value. Interestingly, the results showed that this hypothesis was not supported. In all scarcity cue conditions (demand-driven, supply-driven and control), there is no significant relationship between perceived scarcity and perceived value. In other words, respondents do not perceive a luxury fine-dining restaurant as more valuable when they perceive that the restaurant service experience is scarce. The rejected **H3** revealed an interesting outcome as this finding contradicts the findings from previous studies which have largely supported the relationship between perceived scarcity and perceived value (e.g. Lynn 1991; Shah et al. 2012; Worchel et al. 1975). In contrast, **H4** was supported. In all scarcity conditions, perceived competition has a positive influence on perceived value. Based on the **H3** and **H4** findings, it showed that perceived competition is a better influencer to perceived value

as compared to perceived scarcity. As previously discussed, products with high perceived competition generally indicate that the products are popular, thus have high quality. Especially in the context of luxury fine-dining restaurant, where it is hard to evaluate service quality, diners often rely on previous customers' online reviews when choosing restaurants, more so than any other product category (Kovács et al., 2013). As such, when the perceived competition is high, consumers are likely to rate the restaurant as more valuable.

H5 tests the influence of perceived value towards purchase intention of the elite brand. It was proposed that perceived value has a positive influence on purchase intention in all scarcity conditions. The findings showed that **H5** was rejected. No significant relationship was found between perceived value and purchase intention of the elite brand in both the supply-driven scarcity cue and control conditions. Furthermore, in the demand-driven scarcity cue condition, there was a negative relationship between perceived value and purchase intention. In other words, the more valuable the popular restaurant (thus limited seats available) perceived by consumers, they are more likely to seek for alternatives or prefer not to purchase the product. This result is in line with the theory of agonistic behaviour. As previously discussed in the theory, consumers may choose to submit (not purchasing the product) despite perceiving the 'resource' as valuable (Scott & Fredericson, 1951). The moderating variables examined in this study would be able to shed a light to this result.

H6 investigates the role of self-efficacy as the moderating role between perceived value and purchase intention. It was suggested that self-efficacy strengthens the relationship between perceived value and purchase intention in all scarcity conditions. The findings showed that this was partially supported. Only in both supply-driven cue and control condition, the result also showed that self-efficacy enhanced the non-significant relationship between perceived value and purchase intention to significance in the supply-driven and control conditions. In other words, consumers who have greater self-efficacy (financial resources and knowledge) have higher intention to dine when they perceive the restaurant as high value, while others who have low self-efficacy are more likely to seek for alternatives or do not make any purchase. This phenomenon may be caused by consumers' inability to accurately assess the dishes due to a lack of knowledge. As identified, it is almost impossible to accurately determine credence cues – such as freshness, organic claims, origin, etc. Hence,

although perceived as valuable, consumers may not see the additional value in dining in the elite restaurant in comparison to the cheaper alternative. However, in the demand-driven scarcity cue condition, the result showed there was no interaction between self-efficacy and perceived value to purchase intention. Similarly, this result may be explained by the theory of agonistic behaviour. One of the predictor of aggression rate is the competitor-to-resource ratio (CRR) (Grant et al. 2000). The higher the CRR – which means the number of competitors are higher than the resources – the aggression are higher. However, the aggression falls at a certain point when the CRR is perceived to be too high ($CRR > 2$). As such, when the restaurants are perceived to be highly sought after, especially when it is scarce due to high demand, consumers are more likely to behave submissively and seek alternatives.

H7a examines the three-way interaction between perceived value, self-efficacy and opinion leadership/seeking to purchase intention. **H7a** proposed, only in the supply-driven scarcity cue condition, self-efficacy and opinion leader moderate the relationship between perceived value and purchase intention. The hypothesis is supported. In other words, when a restaurant is perceived to be scarce due to limited supply, opinion leaders who have the abilities to make the purchase, have higher intention to dine at a luxury fine-dining restaurant with limited seats if they perceive the restaurant as valuable. Since opinion leaders have a need to differentiate themselves from others and establish dominance among their social group (Chan, 1988; Chan & Misra, 1990), it is expected that they have greater preference towards restaurants which are perceived to be limited in supply. **H7b** proposed, only in demand-driven scarcity cue condition, self-efficacy and opinion seeker moderates the relationship between perceived value and purchase intention. This hypothesis is also supported. Put simply, when a restaurant is perceived to be scarce due to high demand, opinion seekers who have the abilities to make the purchase are more likely to have higher intention to dine at a luxury and popular fine-dining restaurant if they perceive the restaurant as valuable. In line with previous literature, by purchasing products which are perceived to be popular, the opinion seekers place themselves within a social group and believe that they are making the right decision (Flynn et al., 1996; Punj & Staelin, 1983; Katz & Lazarfeld, 1955). As such, this findings also explained **H5** by demonstrating that consumers' preferences and choice in luxury fine-dining restaurants also dependent on their social role (opinion leader/seeker).

7.8 CONCLUSION

This study contributes in several ways to the body of literature.

7.8.1 Theoretical Contribution

This study offers significant theoretical contributions. This study is one of the first to apply the theory of agonistic behaviour to understand how consumers perceive and respond to heuristic scarcity cues (supply-driven and demand-driven) in the context of luxury fine-dining restaurants. The application of the developed framework (as discussed in Chapter Five and Six) into the restaurant context contributes in validating and generalising the framework in different product categories.

This study also included opinion leadership/seeking together with self-efficacy as moderating variables between perceived value and purchase intention of the luxury fine dining restaurant. The inclusion of both variables into this research is beneficial to better understand consumers' preferences and choices in determining their intention to dine in at the luxury fine-dining restaurants.

7.8.2 Methodological Contribution

Methodologically, this study selected non-fictitious brands as the stimuli to measure purchase intention for both elite and alternative brands in order to increase the ecological validity. Previous experimental studies often relied on recall or imagination and asked the participants to use their own experiences as a point of reference when answering brand-associated questions (e.g. Bian & Forsythe, 2012; Carter & Gilovich, 2012; Rahman et al., 2009). Although the recall method is useful in avoiding framing responses (Bian & Forsythe, 2012), differing experiences for each respondent make it difficult to control for unaccounted factors and to maintain a clear baseline. Thus, as adopted in this research, a provided stimulus with a pre-selected brand offers greater consistency and avoids confounding variables. To emulate a real-life scenario, the stimuli were also created as authentic as possible to replicate the official luxury brand communication materials. Pre-tests were also conducted in order to conform to the realism of the stimuli prior to data collection.

Additionally, the intention to purchase was presented in a continuum scale in which option 1 represented a strong intention to buy the alternative brand, 4 represented

neither alternative nor elite brand, and 7 represented a strong intention to buy the elite brand. The alternative-elite continuum approach may serve as a paradigm shift in approaching the purchase intention scale. Unlike previous studies which only measure purchase intention for one product, a continuum scale highlights a more accurate idea of intention to purchase a specific product relative to its alternative(s).

7.8.3 Managerial Contribution

The result offers remarkable insights for luxury restaurant managers. First, this research contributes by developing an understanding of how different types of consumers respond to the different product categories presented with different heuristic scarcity cues in a luxury fine-dining restaurant context. The two types of scarcity cues target a very different market which in turn requires a different marketing strategy and implementation to appeal to the right consumers.

For the demand-driven scarcity cue condition, the result showed that there is negative relationship between perceived value and purchase intention. However, the adverse influence does not apply to opinion seekers. Those who have the tendency to seek others for advice prefer places which are popular to minimise risk and 'fit in' within a social group. Demand-driven scarcity cue does not display exclusivity as the scarcity is rooted based on its popularity and thus, often perceived as less luxurious than supply-driven scarcity cue (Van Herpen et al., 2009). Hence, demand-driven scarcity cue is more suitable for a fine-dining restaurant who are targeting aspiring consumers seeking to climb the social ladder who wants to achieve higher social status. This strategy typically adopted by the line extension of fine-dining restaurants which aim to increase the customer base without sacrificing the scarcity and prestige of the original first line restaurant (Kapferer, 2012). Alain Ducasse, a French-born Monégasque chef, owned 49 different restaurants, consisting of both Michelin star restaurants and second line restaurants (Alain Ducasse, 2018). The second line restaurants are located in hot areas offered at more affordable prices. By offering both first and second line restaurants as part of the brand portfolio, Alain Ducasse is able to maintain the exclusivity of the Michelin star restaurants, keeping the flame alive for those rare few who can afford to dine in the first line restaurants; while expanding the target market through the second line restaurants.

On the other hand, the finding of this study showed that supply-driven scarcity cue condition is perceived to be scarcer than demand-driven scarcity cue condition. As highlighted, supply-driven scarcity cue signals uniqueness and rarity (Szybillo, 1975). As a result, consumers who have a high need for uniqueness often respond to scarce products in a positive manner as they can display their status and be regarded as unique or distinctive (Fromkin, 1970). These strategies are suitable for extremely high-end luxury fine-dining restaurant with exceptional food rating. Patrons who are willing to pay to dine in would be those who considered themselves as leaders and have a need to be different. Thus, restaurants who adopt supply-driven scarcity strategies must maintain exclusivity to avoid brand dilution. Luxury fine-dining restaurants should restrict or minimise walk-in patrons and the number of reservation each day to create the illusion of scarcity. For instance, El Celler De Can Roca, a fine-dining three Michelin star restaurant in Spain, only has a seating capacity of 45. The restaurant has an 11-month waiting list. In fact, 10,000 visitors from 57 countries fly to Girona only to dine it at El Celler in 2013. Although a higher daily turnover may be reached by increasing the number of tables, El Celler maintains the seating capacity to remain exclusive (Kapferer, 2012).

Second, as discussed, heuristic scarcity cues are not effective in evoking the perception of competition in consumers' mind. Understanding the importance of perceived competition to increase brand/product valuation. Luxury fine-dining restaurants could offer a seasonal degustation menu to build excitement and create a sense of urgency to purchase. As previously discussed, luxury experiential service is different from other tangible products in terms of its production cycle. Tangible products are limited to the manufacturing cycle and may no longer be available after it is discontinued, while restaurants offer relatively consistent service throughout their business period. Changing the menu seasonally breaks the consistent food offering, which in turn, provides new opportunities by bringing in existing customers to gain new experience – just like the first time they dine-in at the restaurant. It drives them to come in more often than they typically would if the menu remains unchanged. It also may appeal to the new consumers as the new menu selection may be suitable for their taste palate. From a business perspective, offering a seasonal menu allows the restaurants owner to use local ingredients that grow in specific seasons and to leverage ingredients that are produced locally.

Third, consumers' education is crucial to the success of the service industry operation. As discussed, the result showed that self-efficacy (perceived knowledge and abilities) made the insignificant relationship between perceived value and purchase intention to be significant. This finding indicated that perceived knowledge seems to have an important role in determining purchase intention in the luxury fine-dining restaurant context. This can be explained by the fact that consumers who have high knowledge in certain product categories are more objective in making a purchasing decision as they understand the value of the product better than those who do not have the knowledge (Deval et al., 2013). As identified, restaurants often rely heavily on credence attributes, which cannot be accurately evaluated by consumers. Luxury restaurant brand managers should provide information sheets, perhaps attached to the menu, to inform consumers of the characteristic of high-quality ingredients – based colour, taste, texture, consistency, etc. Hence, they can differentiate and objectively assess the quality of the product and services. Brand managers may also provide the details and biography of their head-chef to increase the credibility of the restaurant. Moreover, obtaining third-party certifications is also an effective strategy to ease consumers' decision-making process. Other than due to the sense of exclusivity, El Celler was twice ranked no 1 in the world and holds three Michelin stars over the course of 14 years (Deputato, 2015), which also contributed to its success.

7.8.4 Limitations and Future Research Directions

Despite contributions, there are some limitations in the study. First, the sample of this study is limited to Australian consumers, and, thus, the results may not be able to be generalised to consumers from different cultural background. Future studies should consider measuring replicating the study using a different sample profile.

Second, this study only focuses specifically on two heuristic scarcity cues (supply-driven and demand-driven scarcity cue) and does not take into account the different luxury consumer segment (e.g., Parvenus, Patrician, etc.). Future studies should consider taking into account other variables which may influence the purchase intention of luxury fine-dining restaurants.

Third, the scale items adopted for perceived scarcity is limited to measure scarcity perception of the seats in store instead of the number of consumers who have dined in at the restaurant. The aggressive and submissive behaviour is also only measured

through a proxy (purchase intention), instead of the actual purchase behaviour. As identified, aggressive and submissive behaviour have different intensity and those behaviour should be categorised. As a result, it may not capture the accurate aggressive and submissive behaviour in luxury consumption. Future studies should consider monitoring the luxury consumers' behaviour in real time to identify the specific behaviour of aggression and submission. Table reservation simulation may also be conducted in future studies to provide a more accurate measure for both aggressive and submissive behaviour.

Fourth, this study only focuses only on two scarcity conditions (supply-driven and demand-driven scarcity cues) and in luxury experiential services (fine-dining restaurants). Future studies should look at time-restricted scarcity cues, different luxury experiential industries (such as five-star hotel, spa, boutique salon, etc.) and product categories.

Last, the scale items for perceived scarcity only measured the scarcity perception within the store (products that are relatively scarce at one particular location or point in time but may not be scarce at other locations or points in time) (Van Herpen et al., 2009). Perceived scarcity was not measured in an absolute sense, in which the number of products in a particular market situation is limited (Van Herpen et al., 2009). Given that there are now numerous channels through which products can be obtained, this needs to be addressed in future studies.

CHAPTER EIGHT

CONCLUSION

8.1 INTRODUCTION

The previous chapters, Chapters Five, Six, and Seven, have discussed the results based on the data that was collected and analysed. This chapter presents a consolidated review of the present research by discussing the results and the key contributions derived from the three studies conducted. This chapter is organised into three sections. The first section discusses the key findings of the research based on each of the product categories analysed. A summary of the findings and how they address the research objectives are also provided. The second section summarises the theoretical, methodological, and managerial contributions based on the findings of the research. Each contribution is also explained in relation to the research objectives. The last section highlights the limitations of the research and future directions.

8.2 REVIEW OF RESEARCH OBJECTIVES

The research objectives addressed in this research, as detailed in Chapter 2, are:

- RO1:** To conceptualise the theory of agonistic behaviour into marketing by identifying equivalents between two different disciplines, biological sciences and marketing, using real-life marketing examples.
- RO2:** To develop a theoretical framework that explains the consumer purchase behaviour within the luxury branding industry as underpinned by the theory of agonistic behaviour.
- RO3:** To determine the relative effects of the different heuristic scarcity cues (supply-driven, demand-driven, and control condition) on the perception of product scarcity and competitiveness in a luxury branding context for a specific product type displayed (public, private or experiential products).
- RO4:** To evaluate the influence of perceived competition and scarcity on perceived value which, in turn, influences purchase intention in a luxury branding context for a specific product type displayed (public, private or experiential products).
- RO5:** To examine the role of self-efficacy in moderating the relationship between perceived value and purchase intention in a luxury branding context for a specific product type displayed (public, private or experiential products).
- RO6:** To investigate the three-way interaction between perceived value, opinion leadership/seeking, and self-efficacy on purchase intention for the luxury experiential service product.

8.3 SUMMARY DISCUSSION OF KEY RESULTS

Empirical studies were conducted on the three different product categories to gain generalisability of the theoretical model, underpinned by the theory of agonistic behaviour. For each of the product categories, interesting findings were observed. The following section provides a discussion of these key findings.

8.3.1 Study One: Publicly Consumed Luxury-branded Product

Study One examined the impact of perceived scarcity and competition on perceived value and intention to purchase (elite or alternative brands) for publicly consumed luxury-branded products (bags) across three different scarcity cue conditions (demand-driven, supply-driven and control). The moderating role of self-efficacy on the relationship between perceived value and purchase intention of the elite brand was also investigated. The findings uncovered some interesting trends.

In terms of perceived scarcity, the result showed that demand- and supply-driven scarcity cues elicited higher perceived scarcity compared to the control condition. However, demand-driven scarcity cues elicited greater scarcity than supply-driven scarcity cues, which are often assumed to have the same relative effect in the previous literature (e.g. Aggarwal et al., 2011; Gierl et al., 2008; Worchel et al., 1975). Thus, **H1** was partially supported.

This finding may be explained by consumers' suspicion of persuasive marketing claims in supply-driven scarcity cues (Yeo & Park, 2009). Since the nature of product shortage due to supply-driven scarcity is artificial, companies have full control over the production of limited edition products. Thus, although limited edition products are by nature lesser in quantity than the non-limited edition products, luxury brands still need to produce a large enough number of limited edition products in order to make a profit. The use of "limited edition" is sometimes perceived to be anything but limited (New Harris Poll, 2015). In the luxury branding context, some luxury brands overproduce and/or excessively offer its limited edition collections which, over time, has been found to dilute their brand image (As evident in Chapter Five). As such, although limited edition bags (supply-driven) are produced significantly less than non-limited edition bags, their scarcity may be perceived as less threatening or more artificial than the bags promoted with demand-driven scarcity cues.

Despite the significant differences noted for the perceived scarcity of supply-driven and demand-driven scarcity cues, perceived competition between the two scarcity cues were not significantly different and higher compared to the control condition, supporting **H2**. Limited availability due to high demand or restricted supply garners more consumer preferences, which in turn, leads to higher perceived competition, supporting the findings of existing research in the area (e.g. Cialdini, 2009; Verhallen & Robben, 1994).

Interestingly, perceived scarcity did not significantly influence the perception of value in both demand-driven and supply-driven scarcity cues. Only in the control condition, a positive relationship towards perceived value was found. Thus, **H3** was partially supported. On the other hand, perceived competition had a positive influence on perceived value in all conditions, supporting **H4**. Based on the **H3** and **H4** findings, it showed that perceived competition is a better influencer to perceived value as compared to perceived scarcity. This is a fascinating result as previous research often found correlations between scarcity cues to product quality and value (e.g. Lynn, 1991; Shah et al., 2012; Worchel et al., 1975), but there is no relationship between perceived scarcity and value in this study. As stated by Cialdini (2009), consumers value a product more, not only when it is scarce, but when they are competing with others for it. Acquiring a product that is wanted by many other consumers provides a satisfying feeling and a sense of accomplishment for the consumer; hence, it is perceived to be more valuable (Nelissen & Meijers, 2011; Phau & Prendergast, 2000).

Furthermore, the study found that, perceived value leads to purchase intention of the elite brand in all scarcity conditions, supporting **H5**. In line with existing literature (e.g. Bian & Forsythe, 2012; Hung et al., 2011; Li, Li, & Kambele, 2012; Shukla & Purani, 2012), this result implies that consumers who perceived the elite brand as valuable have higher intention to purchasing the brand.

When self-efficacy was taken into account as a moderator, the self-efficacy strengthened the relationship between perceived value and purchase intention, only in the supply-driven scarcity cues. Hence, **H6** was partially supported. This finding showed that consumers with greater self-efficacy (e.g. financial ability, knowledge, etc.) are willing to sacrifice more money to purchase products presented with supply-driven scarcity cues as compared to products presented with demand-driven scarcity

cues or non-limited edition products. This finding can be explained by the rapid growth of luxury brand owners over the years. Due to the increase of luxury consumers, owning luxury brands is no longer a measure of status, uniqueness and wealth. Luxury brands which are too popular (demand-driven scarcity) or even non-limited luxury brands (control) are perceived to be mainstream and which devalues the brand. As stated in the bandwagon theory, products presented with demand-driven scarcity cues portray conformity (Amaldoss & Jain, 2008), which is often not the desired outcome for conspicuous products that are visible to others (Gierl & Huettl 2010). This effect is accentuated since publicly consumed luxury-branded products are socially visible to others. Since limited edition products are scarce due to limited production, this allows the owner to achieve their need for uniqueness and high status (Wu & Lee, 2016).

As a result, consumers, specifically those with greater self-efficacy are more likely to steer away from socially visible luxury brands which are deemed to be too popular. They are more likely to choose luxury-branded products which are scarce and limited in order to satisfy the need of uniqueness and portray status to others. Therefore, although perceived scarcity had no direct influence on perceived value (**H3**), this finding demonstrated that scarcity cues are essential for luxury-branded products.

8.3.2 Study Two: Privately Consumed Luxury-branded Product

Study Two examined the impact of perceived scarcity and competition on perceived value and intention to purchase (elite or alternative brands) for privately consumed luxury-branded products (underwear) across three different scarcity cue conditions (demand-driven, supply-driven and control). The moderating role of self-efficacy on the relationship between perceived value and purchase intention of the elite brand was also investigated.

The results of the privately consumed luxury-branded products showed similar findings from the publicly consumed luxury-branded products. Supply- and demand-driven scarcity cues were perceived as significantly scarcer than control condition. Furthermore, demand-driven scarcity cue is perceived to be significantly scarcer than supply-driven scarcity cue. Thus, **H1** was partially supported. Supporting **H2**, the findings showed that the perceived competition is higher in both demand- and supply-driven scarcity cues as compared to the control condition, but the perceived

competition is not significantly different between demand- and supply driven scarcity cues.

The results also found that there was no significant relationship between perceived scarcity and perceived value in all conditions. Thus, **H3** was rejected. On the other hand, perceived competition had a positive influence on perceived value in all conditions. Thus, **H4** was supported. In both publicly and privately consumed luxury-branded products, the findings from **H3** and **H4** demonstrated that the perception of scarcity does not influence value, but the perception of competition does. Consistent with the publicly consumed luxury-branded products, this result further confirms that consumers desire products, not only when they are scarce, but when they are in competition for it (Cialdini, 2009).

In contrast to the findings from publicly consumed luxury-branded products, there was no significant relationship was found between perceived value and purchase intention of elite brand in the control condition. Thus, **H5** was only partially supported. As previously identified, products which are scarce due to high demand are often perceived as high quality and consumers are more likely to associate themselves with other buyers (Gierl & Huettl, 2010), while products with which are scarce due to supply are likely to be perceived as unique, distinct, and novel (Szybillo, 1975). Thus, both scarcity conditions, can be expected to elicit perceived value and intention to purchase (Worchel et al., 1975). However, products without scarcity cues attached are unable to indicate quality and uniqueness compared to those that do. Although consumers may perceive the products as possessing value, they are more likely to choose alternative brands which are generally more affordable and accessible.

Consistent with the publicly consumed luxury-branded products, the results also found that, only in the supply-driven scarcity cue condition, self-efficacy strengthen the relationship between perceived value and purchase intention of the elite brand. Thus, **H6** was partially supported. Similar to the results in publicly consumed luxury-branded products, consumers who have greater self-efficacy are more willing to purchase limited-edition luxury products as compared to highly in demand or non-limited luxury products.

This result revealed that supply-driven scarcity cue is an effective promotion strategy for privately consumed luxury-branded products, contradicting with previous literature

by Gierl and Huettl (2010). Since Gierl and Huettl (2010) conducted the study in non-luxury-brand products, this result further confirms the importance of differentiating luxury-branded and non-luxury-branded products and to not assuming the two are the same. As previously identified, luxury brands reflect the taste of elites (Kapferer 2014) which are desired in order to achieve personal reward and fulfilment rather than functional needs (Vigneron & Johnson 2004). Especially for limited edition luxury-branded products in which the products are scarce in an absolute sense (while demand-driven scarcity cue are relatively scarce at one particular location or points at time), purchasing limited edition luxury-branded products allow them to exercise their need for uniqueness and self-concept; allowing them to achieve personal gratification. Although privately consumed luxury-branded items are used out of public view, personal related benefits (e.g. perceived hedonism and extended-self), quality, and craftsmanship are still clearly evident in the limited edition luxury-branded products. As such, supply-driven scarcity cue condition are an effective promotion strategy for privately consumed luxury branded products. Therefore, similar to Study One, although perceived scarcity had no direct influence on perceived value (**H3**), this finding demonstrated that scarcity cues are essential for luxury-branded products.

8.3.3 Study Three: Luxury Experiential Service Products

Study Three examined the impact of perceived scarcity and competition on perceived value and intention to purchase (elite or alternative brands) for luxury experiential service products (luxury fine-dining restaurants) across three different scarcity cue conditions (demand-driven, supply-driven and control). Moreover, the moderating role of self-efficacy on the relationship between perceived value and purchase intention of the elite brand was investigated. A three-way interaction between opinion leadership/seeking, self-efficacy and perceived value towards purchase intention of the elite fine-dining restaurant was also examined.

In the context of luxury fine-dining restaurants, a few contradictory findings were noted compared to tangible products (both public and private). Even though supply- and demand-driven scarcity cues elicited greater scarcity as compared to the control condition, interestingly the results showed that supply-driven scarcity cues elicited greater scarcity as compared to demand-driven scarcity cues. Thus, **H1** was partially supported. This interesting finding can be explained by the nature of experiential services (Lamb et al., 2016). In the context of luxury fine-dining restaurants, food

ingredients are often perceived as scarce. Luxury fine-dining restaurants offer high quality ingredients which are often naturally rare and they have no control over their availability. Therefore, when a restaurant is perceived to be scarce due to limited supply, consumers are more likely to think that there is a natural shortage of the raw ingredients. On the other hand, although demand-driven luxury fine-dining restaurants also indicate scarcity, this scarcity is due to popularity; not due to product shortage. Therefore, unlike the tangible product categories, the perceived scarcity in the supply-driven scarcity condition was significantly higher than in the demand-driven scarcity condition.

For the perceived competition, despite significant differences between control and supply-driven scarcity condition, there was no significant difference between demand- and supply-driven scarcity cues and between demand-driven scarcity cue and control condition. Thus, **H2** was partially supported. This finding indicated that heuristic scarcity cues are not an effective signalling method in imposing the perception of competition for luxury fine-dining restaurants. However, this result may again be explained by examining the nature of experiential services. Unlike tangible products where the quantity is limited to a manufacturing cycle and may no longer be available once discontinued, services do not rely on the manufacturing cycle and are perceived to be constant in their supply. Thus, consumers may choose to delay their purchase if the restaurant is fully booked on that particular day, hence there is no urgency involved in the purchase.

However, similar to the results of the tangible product categories, there is no significant relationship between perceived scarcity and perceived value in all conditions. Thus, **H3** was rejected. A significant relationship was found between perceived competition and perceived value in all conditions, supporting **H4**. As previously discussed, products with high perceived competition generally indicate that the products are popular, thus have high quality. Especially in the context of luxury fine-dining restaurant, where it is hard to evaluate service quality, diners often rely on previous customers' online reviews when choosing restaurants, more so than any other product category (Kovács et al., 2013). As such, when the perceived competition is high, consumers are likely to rate the restaurant as more valuable.

Moreover, in contrary to the findings of the tangible product categories, no significant relationship was found between perceived value and purchase intention to the elite brand in both the supply-driven scarcity cue and control conditions. Further, a negative relationship was found between perceived value and purchase intention of the elite brand in the demand-driven scarcity cue. Thus, **H5** was rejected. As stated in the theory of the agonistic behaviour, consumers may choose to submit (not purchasing the product) despite perceiving the 'resource' as valuable (Scott & Fredericson, 1951). The moderating variables examined in this study would be able to shed a light to this result.

H6 examined the role of self-efficacy as the moderating variable between perceived value and purchase intention of the elite brand. In both the supply-driven scarcity and control conditions, the result showed that self-efficacy enhanced the non-significant relationship between perceived value and purchase intention to significance. However, in the demand-driven scarcity condition, self-efficacy was found to not have any significant effects on the relationship between perceived value and purchase intention. Thus, **H6** was partially supported.

In regards to the supply-driven scarcity and control condition, the results indicated that consumers who have greater self-efficacy (financial resources and knowledge) have higher intention to dine when they perceive the restaurant as high value, while those who have low self-efficacy are more likely to seek for alternatives or not make a purchase. This phenomenon may be caused by consumers' inability to accurately assess the dishes due to a lack of knowledge. As identified, it is almost impossible to accurately determine credence cues such as freshness, organic claims, and origin. Hence, although perceived as valuable, consumers may not see the additional value in dining in the elite restaurant in comparison to the cheaper alternative.

However, in the demand-driven scarcity condition, the result showed there was no interaction between self-efficacy and perceived value to purchase intention. Similarly, this result may be explained by the theory of agonistic behaviour. One of the predictor of aggression rate is the competitor-to-resource ratio (CRR) (Grant et al. 2000). The higher the CRR, where the number of competitors are higher than the resources, the higher the aggression. However, the aggression falls at a certain point when the CRR is perceived to be too high ($CRR > 2$). As such, when the restaurants are perceived to

be highly competed for, especially when it is scarce due to high demand, consumers are more likely to behave submissively and seek for alternatives.

This study also incorporated an additional moderator to investigate the role of opinion leadership/seeking in affecting the relationship between perceived value and purchase intention. Supporting **H7a**, the results showed that self-efficacy and opinion leader moderates the relationship between perceived value and purchase intention in the supply-driven scarcity condition. In other words, when a restaurant is perceived to be scarce due to limited supply, consumers, who perceive themselves as opinion leaders, have higher intention to dine at the selected luxury fine-dining restaurant when they perceive the restaurant as valuable and have the necessary resources and knowledge to make the purchase. Since opinion leaders have a need to differentiate themselves from others and establish dominance among their social group (Chan & Misra, 1990), it is expected that they have greater preference towards restaurants which are perceived to be limited in supply.

Moreover, supporting **H7b**, self-efficacy and opinion seeker moderate the relationship between perceived value and purchase intention in the demand driven scarcity condition. Simply put, consumers who have the tendency to follow others' opinion and have the necessary resources and ability to make the purchase, have higher intention to dine at the restaurants which are perceived to be scarce due to high demand and seen as valuable. As highlighted previously, opinion seekers actively search for advice from other people to make more need-satisfying and risk reduction purchase decisions (Punj & Staelin, 1983; Flynn et al., 1996). They also have a desire to be a member of a group hence they adopt the values and belief of others (Katz & Lazarfeld. 1955). By purchasing products which are perceived to be popular, the opinion seekers place themselves within a social group and believe that they are making the right decision (Flynn et al., 1996).

8.3.4 Summary of findings

Table 8.1 is a summary of the key findings across the three different product categories.

Table 8.1: Results of Hypotheses Testing

Hypotheses	Publicly Consumed Luxury-branded Products	Privately Consumed Luxury-branded Products	Luxury Experiential Service Products
H1. Perceived scarcity is not significantly different in both demand-driven and supply-driven scarcity conditions, but is significantly lower in the control condition.	Partially Supported	Partially Supported	Partially Supported
H2. Perceived competition is not significantly different in both demand-driven and supply-driven scarcity conditions, but is significantly lower in the control condition.	Supported	Supported	Partially Supported
H3. Perceived scarcity has a positive influence on perceived value.	Partially Supported	Not Supported	Not Supported
H4. Perceived competition has a positive influence on perceived value.	Supported	Supported	Supported
H5. Perceived value has a positive influence on purchase intention for the elite brand.	Supported	Partially Supported	Not Supported
H6. Self-efficacy will enhance the relationship between perceived value and purchase intention for the elite brand.	Partially Supported	Partially Supported	Partially Supported
H7a. In supply-driven scarcity condition, the level of opinion leadership enhances the moderation of self-efficacy on the relationship between perceived value and purchase intention.			Supported
H7b. In demand-driven scarcity condition, the level of opinion seeking enhances the moderation of self-efficacy on the relationship between perceived value and purchase intention.			Supported

The following table (Table 8.2) provides a brief overview of the findings of the thesis addressing the research objectives identified.

Table 8.2: Overview of research objectives and findings

Research Objectives	Findings summarised
RQ1: How does theory of agonistic behaviour explain consumer behaviour when purchasing luxury brands?	
<p>RO1: To conceptualise the theory of agonistic behaviour into marketing by identifying equivalents between two different disciplines, biological sciences and marketing, using real-life marketing examples.</p>	<ul style="list-style-type: none"> • In Chapter Two, an extensive literature review on the theory of agonistic behaviour in biological sciences was conducted to identify parallels between animal behaviour and consumer behaviour when competing for scarce resources. • The three stages of agonistic behaviour and the four key areas influencing agonistic behaviour were clearly discussed in the literature review chapter and were conceptualised to the consumer behaviour context in Chapter Three. • Real-life marketing examples were used to illustrate the equivalents between the two disciplines.
<p>RO2: To develop a theoretical framework that explains the consumer purchase behaviour within the luxury branding industry as underpinned by the theory of agonistic behaviour.</p>	<ul style="list-style-type: none"> • As underpinned by the theory of agonistic behaviour and supported by the S-O-R model, a research model was developed. • The framework comprised of different variables, including perceived scarcity, perceived competition, perceived value, purchase intention and self-efficacy. • Three different studies were conducted to ensure the validity of the framework and the generalisability of the theoretical model. <ul style="list-style-type: none"> - The first study built the theory of agonistic behaviour from biological sciences to consumer behaviour context and tested the research model in the context of publicly consumed luxury-branded products. - The second study validated the research model in the context of privately consumed luxury-branded products. - The last study validated the research model in the context of luxury fine-dining restaurants. An additional moderator, opinion leadership/seeking was also included.

RQ2: How do heuristic scarcity cues influence consumers' perception and behaviour of luxury-branded products or services?

RO3: To determine the effect of the different heuristic scarcity cues (supply-driven, demand-driven, and control condition) on the perception of product scarcity and competitiveness in a luxury branding context for a specific product type displayed (public, private or experiential service products).

- For both publicly and privately consumed luxury-branded products, the perceived scarcity in the control condition was significantly lower than the ones with scarcity conditions (supply-driven and demand-driven scarcity cues). However, the perception of scarcity was higher in the demand-driven scarcity condition as compared to the supply-driven for both publicly consumed and privately consumed luxury-branded products.
- For the luxury fine-dining restaurant, the perceived scarcity in the control condition was significantly lower than the ones in scarcity conditions (supply-driven and demand-driven scarcity cues). However, the perception of scarcity was higher in the supply-driven scarcity condition as compared to the demand-driven scarcity condition.
- For both publicly consumed and privately consumed luxury-branded products, the perception of competition was significantly lower in the control condition as compared to both supply-driven and demand-driven scarcity conditions; No significant difference was found in the perceived competition for both supply-driven and demand-driven scarcity conditions.
- For the luxury fine-dining restaurants, although the perceived competition in the control condition was significantly lower than in the supply-driven scarcity condition, it was not significantly difference to the one in the demand-driven scarcity condition.

RO4: To evaluate the influence of perceived competition and scarcity on perceived value which, in turn, influences purchase intention in a luxury branding context for a specific product type displayed (public, private or experiential service products).

- Regardless of the scarcity conditions, perceived scarcity was not a predictor of perceived value in both privately consumed luxury-branded products and luxury fine-dining restaurants.
- In the context of publicly consumed luxury-branded products, the significant relationship between perceived scarcity and perceived value was only found in the control condition.
- Perceived competition was a significant predictor of perceived value in all scarcity conditions and all product categories.
- For the publicly consumed luxury-branded products, perceived value positively influenced purchase intention of the elite luxury brands; while for the privately consumed luxury-branded products, the relationship between perceived value and purchase intention was only significant in the supply- and demand-driven scarcity cues condition.
- For the luxury fine-dining restaurants, no significant relationship found between perceived value and purchase

intention in the supply-driven scarcity and control conditions. Despite a significant relationship between perceived value and purchase intention in the demand-driven scarcity condition, the relationship was negative.

RQ3: How do self-efficacy and opinion leadership/seeking moderate the relationship between consumers' perception of value and purchase intention for luxury-branded products or services?

RO5: To examine the role of self-efficacy in moderating the relationship between perceived value and purchase intention in a luxury branding context for a specific product type displayed (public, private or experiential service products).

- For both publicly consumed and privately consumed luxury-branded products, self-efficacy was a significant moderator between perceived value and purchase intention only in the supply-driven scarcity condition.
- For luxury fine-dining restaurant, self-efficacy moderated the relationship between perceived value and purchase intention in both supply-driven scarcity and control condition.

RO6: To investigate the three-way interaction between perceived value, opinion leadership/seeking, and self-efficacy on purchase intention for the luxury experiential service product.

- An additional moderator, opinion leadership/seeking was introduced only in study three. The effect of opinion leadership and self-efficacy as a moderator between perceived value and purchase intention was only significant in the supply-driven scarcity condition.
 - The effect of opinion seeking and self-efficacy as a moderator between perceived value and purchase intention was only significant in the demand-driven scarcity condition.
-

8.4 RESEARCH CONTRIBUTIONS

8.4.1 Theoretical Contributions

The primary contribution of this research is the conceptualisation of the theory of agonistic behaviour in the context of luxury branding. This research makes a number of key theoretical contributions to the literature on luxury branding and scarcity:

8.4.1.1 Extends the theory of agonistic behaviour from the field of biological sciences to marketing and luxury branding context [Addressing Gap 1 and ROI]

Animals portray similarities in many aspects with human beings and studying them offers insights which may help explain consumer behaviour (Colarelli & Dettmann, 2003; Griskevicius & Kenrick, 2013; Griskevicius et al., 2009; Saad & Gill, 2000). However, limited studies have identified the similarities between animal and human behaviour in fighting for scarce resources, specifically in luxury branding context (**Gap 1**). The massification of luxury has become a common phenomenon in the marketplace (Berger & Heath, 2007, 2008; Main 2017; Phau & Prendergast 2000; Yang & Matilla 2014), yet the impact has not been fully understood in theory. As such, **ROI** aimed at conceptualising the theory of agonistic behaviour into marketing and luxury branding context.

An extensive literature review on the theory of agonistic behaviour was provided to understand animal behaviour when competing for scarce resources. The three stages of agonistic behaviour along with the cognitive processes were identified and elaborated in detail. The different factors influencing the agonistic behaviour were discussed and categorised into four key themes. Based on the thorough literature review, parallels between the two different disciplines, biological sciences and marketing, was drawn. This research is one of the first to apply the theory of agonistic behaviour from the field of biological sciences to the marketing context. As mentioned, the current research identified the behavioural similarities between animals and human beings in fighting for scarce resources in marketing context. This research shed a light on the different factors influencing consumer competition which is worth exploring in the future, for instance, personality traits (e.g. competitive traits, emotionality, etc.), product distribution (high intensity vs low intensity), previous experience, etc. The

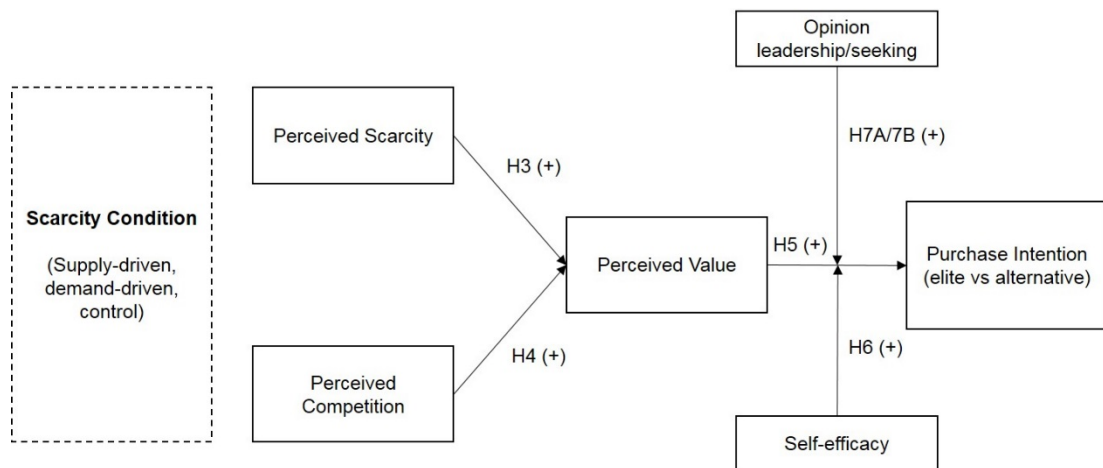
examples of Black Friday and auction were discussed to illustrate the parallels between the two disciplines.

Once the parallels between the two disciplines has been demonstrated, the theory of agonistic behaviour was applied in the context of luxury brands. This research provided insights and recommendations to solve the growth dilemma for luxury brands companies through the manipulation of heuristic scarcity cues. Real life luxury brands examples – such as Louis Vuitton, Hermès, Kanye West x Adidas Yeezy limited edition, Supreme, Off White – were also provided.

8.4.1.2 Develops a theoretical model by using the theory of agonistic behaviour as the underpinned theory and supported by the S-O-R model [Addressing RO2 – Gap 2]

There are limited theories and theoretical frameworks which explain how consumers compete for scarce resources in a luxury branding context (Kristofferson et al., 2016) (**Gap 2**). As such, **RO2** aimed at developing a theoretical framework that explains the consumer purchase behaviour within the luxury branding industry. As underpinned by the theory of agonistic behaviour and supported by the S-O-R model, a theoretical model was developed. The developed theoretical model was useful in identifying how heuristic scarcity cues influence consumers' perception and behaviour towards luxury branded products/services. By developing this framework, the influence of heuristic scarcity cues on consumer perception and behaviour towards luxury-branded products and the role of consumer competition was demonstrated. Furthermore, the use of S-O-R model in supporting the theory of agonistic behaviour has broadened the application of S-O-R model to explain consumers' competition and the effect of scarcity. The current framework also provides a platform for future research to investigate the influence of other types of the scarcity cues (e.g. time-constrains scarcity), scarcity levels (high vs. low) and to examine other forms of consumer competition for scarce products (e.g. Black Friday sales, auctions). Figure 8.2 illustrates the research model developed and evaluated in this research.

Figure 8.1: Research Model for the Thesis



8.4.1.3 Validates and generalises the theoretical model using different product categories [Addressing RO3 – Gap 3]

Different product categories in luxury branding context have different product natures and characteristics, which in turn offer distinct benefits to users. Despite substantial research in the context of publicly consumed luxury-branded products, the privately consumed luxury-branded products (Hume & Mills, 2013) and luxury experiential service products have been underexplored (Yang & Matilla, 2014) (**Gap 3**). Therefore, **RO3** aimed at examining the influence of the different heuristic scarcity cues on the different product categories as the boundary condition within luxury branding context.

The present study applied the developed theoretical model into three different product categories (Study One: publicly consumed luxury-branded products; Study Two: privately consumed luxury-branded products; and Study Three: luxury experiential services). As such, the developed framework has been validated and generalised across different product categories. Although there are few differences across the three product categories due to the differing nature of the products, consistent results were found in (1) the relationships between perceived scarcity and perceived value; (2) the relationships between perceived competition and perceived value; (3) the role of self-efficacy in moderating the relationship between perceived value and purchase intention. This preliminary result is useful in determining the different factors influencing consumer competition towards products/services advertised with heuristic scarcity cues.

8.4.1.4 Measures the role of perceived competition towards the valuation of luxury-branded products or services [Addressing RO4 – Gap 5]

To date, competitive behaviour has attributed to different theories, for instance trait theory approach (e.g. Angst et al., 2008; Frederick, 2000; Kelley & Stahelski, 1970; Ku et al., 2005; Wang & Netemeyer, 2002) and 3M motivation theory (Mowen & Spears, 1999). Despite the elaborative evidence of competition due to evolution, limited studies have conceptualised the competitive behaviour in relation to the biological sciences. The influence of competition has rarely been investigated in the context of product scarcity (e.g. Verhallen & Robben, 1994) (**Gap 5**). As such, **RO4** is aimed at identifying the role of perceived competition as the antecedent to perceived value in luxury branding context, which was not fully understood in theory. All studies have supported the relationship between perceived competition and perceived value, while the relationship between perceived scarcity and perceived value were not consistently significant across different studies. The findings have shown that perceived competition plays a significant role in determining consumers' perception of product value, which leads to purchase intention. As such, the perception of competition should not be ignored and need to be examined further to provide insights regarding to its implication.

8.4.1.5 Measures consumer submissive behaviour in the context of purchasing luxury-branded products or services [Addressing RO4 – Gap 6]

According to the theory of agonistic behaviour, animals may choose to perform submissive behaviour, instead of being aggressive in acquiring the desired resources. Similarly, when consumers are exposed to marketing-induced scarcity promotion, some consumers may behave aggressively and willing to pay more in order to obtain the desired products, while others may choose to submit and purchase alternative product instead. Despite the extensive literature on scarcity effect, limited studies have discussed the submissive behaviour in the context of purchasing luxury-branded products/services (**Gap 6**). As such, **RO4** aimed at examining consumers' submissive behaviour in luxury branding context, by measuring the purchase intention of both elite and alternative brands using continuum scale.

The study is one of the first to consider the option of consumers being submissive and prefer not to purchase the elite brands, despite perceiving it as scarce and valuable. This research challenges the assumption in scarcity research by demonstrating that

scarcity effect may not always lead to purchase intention of luxury-branded products/services. Instead, this depends on the type of scarcity cue portrayed and individuals' personal factors. With the rise of luxury for the masses, this research provides insights and recommendations to address the growth dilemma and brand image dilution crisis for luxury brands (will be discussed further in the managerial contribution).

8.4.1.6 Measures the influences of self-efficacy and opinion leadership/seeking as moderators for the relationship between perceived value and purchase intention [Addressing RO5 – Gap 7 and RO6 – Gap 8]

The existing theory regarding luxury consumers' profile only includes the need for status and their financial wealth (Han et al., 2010). Limited studies have taken into account the individuals' self-efficacy when purchasing luxury brands (e.g. Amatulli & Guido, 2011; Bian & Forsythe, 2012; Kim & Ko, 2012; Knight & Kim, 2007; Hung et al., 2011) (**Gap 7**). As such, **RO5** aimed at examining the role of self-efficacy in moderating the relationship between perceived value and purchase intention. Furthermore, limited research has examined the impact of opinion leadership and seeking as the moderator variable between perceived value and purchase intention of the elite luxury fine-dining restaurant (e.g. Goldsmith & Clark, 2008; Bertrandias & Goldsmith, 2006; Phau & Lo, 2004; Workman & Johnson, 1993) (**Gap 8**). Therefore, **RO6** aimed at identifying the three-way interaction between perceived value, opinion leadership/seeking and self-efficacy on purchase intention for the luxury experiential service product. The inclusion of both variables into this research is beneficial to better understand consumers' preferences and choices in purchasing luxury-branded products/services.

The research found that some luxury consumers choose to avoid luxury brands advertised as scarce due to high demand as it is seen to be too popular and mainstream in the market. Consumers with high self-efficacy are more likely to choose luxury brands which are scarce due to limited supply to differentiate themselves. Furthermore, in the luxury fine-dining restaurant context, opinion leaders with high self-efficacy are more likely to choose restaurants which offer limited seats. On the other hand, opinion seekers are more likely to choose services which are scarce due to high demand as it indicates quality (Flynn et al., 1996) and provides them with a sense of belongingness (Katz & Lazarsfeld, 1995). Both self-efficacy and opinion leadership/seeking variables

provide insights into the different type of consumers and their choices towards luxury-branded products/services advertised with heuristic scarcity cues.

8.4.2 Methodological Contributions

This research provides a number of methodological contributions:

8.4.2.1 Validates the theoretical framework by replicating the studies in different product categories [Addressing RO3]

The developed theoretical framework is the first step in understanding the theory of agonistic behaviour in a luxury branding context. The results of the analysis showed that the framework is applicable for examining consumers' perception and competitive behaviour towards luxury-branded products/services advertised with heuristic scarcity cues. The framework has been tested and generalised across three different studies. For all studies, the methodology and data analysis were kept consistent to maintain rigour. As such, future studies are able to apply the developed theoretical framework to understand consumer competition in different product categories and industry context.

8.4.2.2 Select non-fictitious brands as the stimuli to measure purchase intention for both elite and alternative brands [Addressing RO3 and RO4]

The present research examines the influence of different heuristic cues on consumers' perception and behaviour towards a specific product type displayed in the context of luxury branding. Previous experimental studies often relied on recall or imagination and asked the participants to use their own experiences as a point of reference when answering brand-associated questions (e.g. Bian & Forsythe, 2012; Carter & Gilovich, 2012; Rahman et al., 2009). Although the recall method is useful in avoiding framing responses (Bian & Forsythe, 2012), differing experiences for each respondent make it difficult to control for unaccounted factors and to maintain a clear baseline. Thus, as adopted in this research, a provided stimulus with a pre-selected brand offers greater consistency and avoids confounding variables.

This research also chose brands which are relatively unknown to the Australian market to minimise brand effects and familiarity. Although previous studies often used fictitious brand as the stimulus (e.g. Jang et al., 2015; Shin et al., 2017) to solve the issue of brand effect, this research chose non-fictitious brands, yet unfamiliar, to ensure the realism of the experiment and ecological validity of the study. The digital

pamphlets were also created as authentic as possible to obtain a true representation of the marketplace. As such, this research was able to capture more accurate responses while avoiding framing responses to the respondents.

8.4.2.3 Acknowledges the different preferences and choices across genders [Addressing RO3 and RO4]

Luxury-branded product categories such as handbags, shoes, and undergarments are generally gender neutral, but their product models are often gender specific. As such, it is important to acknowledge variations in choices and preferences across genders (Caterall & Maclaran, 2001; Moss, 1995; Moss & Colman, 2001; Simon & Peppas, 2005), especially in experimental studies where respondents are shown a product stimulus (e.g. Bian et al., 2015; Han et al., 2010; Knight & Kim, 2007; O’Cass & Choy, 2008). In this research, for both publicly and privately consumed luxury-branded products, the different preferences and choices across gender was acknowledged (Stockburger-Sauer & Teichmann, 2013). The product stimulus for both males and females were differentiated to capture both perspectives and remove gender biases. This research also demonstrated no significant difference in terms of the results between the two genders, indicating that the stimulus differentiation based on gender is effective.

8.4.2.4 Uses continuum scale for purchase intention of luxury-branded products/services [Addressing RO4, RO5 and RO6]

The intention to purchase was presented in a continuum scale in which option 1 represented a strong intention to buy the alternative brand, 4 represented neither alternative nor elite brand, and 7 represented a strong intention to buy the elite brand. The alternative-elite continuum approach may serve as a paradigm shift in approaching the purchase intention scale. Unlike previous studies which only measure purchase intention for one product, a continuum scale highlights a more accurate idea of intention to purchase a specific product relative to its alternative(s).

8.4.3 Managerial Contributions

This research offers significant insights for luxury brand managers on how consumers respond to heuristic scarcity cues and how they can be best applied to maximise sales without diluting the exclusivity of the brand. This research provides a number of managerial contributions:

8.4.3.1 *Develops an understanding of how different types of consumers respond to the different product categories presented with different heuristic scarcity cues in a luxury branding context [Addressing RO3 – Gap 3]*

This research confirms that demand-driven and supply-driven scarcity cue work in different ways for luxury-branded products/services as they signal different message to consumers. Hence, the two types of scarcity cues target a very different market which in turn requires a different marketing strategy and implementation to appeal to the right consumers.

As previously discussed, in the supply-driven scarcity cue condition, there was a significant relationship between perceived value and purchase intention for both publicly consumed and privately consumed luxury-branded products. While there was no significant relationship between perceived value and purchase intention for luxury fine-dining restaurants, the relationship became significant when self-efficacy was included as the moderator. The positive interaction of self-efficacy as a moderator between perceived value and purchase intention was also found for both publicly consumed and privately consumed luxury-branded products.

Therefore, it is concluded that the supply-driven scarcity condition is suitable for all product categories, regardless whether it is publicly or privately consumed. Further, through purchasing limited edition luxury-branded products or services, high social status and self-concept can be achieved. Due to the high price tag, however, limited edition products are more likely to be purchased by those who have the ability to purchase them, while those who do not are more likely to seek alternatives. As such, luxury brand managers who position their products as top or elite-level luxury products should limit the production of every products within their portfolio in order to avoid brand dilution. Furthermore, they could introduce limited edition collections to target the upscale market who are willing to spend more money for exclusive and scarce products. These strategies are useful in maintaining a prestigious and exclusive image in minds of consumers.

In the demand-driven scarcity cue condition, there was a significant relationship found between perceived value and purchase intention in both publicly and privately consumed luxury-branded products. However, there was no significant interaction between self-efficacy and perceived value towards purchase intention. This result indicated that consumers who have high self-efficacy are more likely to avoid products

which are perceived scarce due to high demand. Furthermore, a negative relationship was found between perceived value and purchase intention for the luxury fine-dining restaurants. Only those who are high in opinion seeking traits and self-efficacy are more likely to choose fine-dining restaurants which are scarce due to high demand.

As such, it could be argued that demand-driven scarcity cue is not suitable for brands who are seeking to target higher status and affluent consumers. Although demand-driven scarcity cues indicate product quality, it also signals conformity (Leibenstein, 1950), which negates for the uniqueness motivation high social class consumers (Veblen, 1899). Demand-driven scarcity cues are more suitable for 'masstige' luxury brands who are targeting aspiring consumers and less affluent consumers who seek high quality products and wish to conform to high social status consumers. Entry level brands such as Michael Kors, Coach, and Marc Jacobs would be more suited to using a demand-driven scarcity strategy which may act as the stepping stone for aspiring luxury consumers gradually work towards elite status (Rambourg, 2014).

8.4.3.2 Offers insights into the importance of perceived competition among shoppers in a luxury branding context [Addressing RO3 – Gap 4 and RO4 – Gap 5]

This research highlights to luxury brands managers that the perception of scarcity does not suffice to influence consumers' perception of the product value. In order to improve the perceived value of a product, the product should also be perceived to be sought after and desired by others. This, in turn, creates a sense of competition among consumers further stimulating value and purchase intention, as highlighted in the results of this study.

There are a few strategies which can be implemented to increase brand desirability and evoke perception of competition. First, luxury brand managers could use prestigious celebrities or role models such as brand ambassadors to create demand for their products. It is important to note that luxury brands should not select just any celebrity as their representative, but rather only a select few judged valuable enough to represent the brand (Kapferer, 2012). For instance, as seen in Figure 8.2, Charlize Theron was chosen to be the first celebrity campaign for Christian Dior. Pamela Bazter, president and CEO of LVMH Perfumes & Cosmetics, said "Ms Theron was chosen because she represents modern femininity and embodies the spirit and energy of Dior. She is a classic beauty" (Grant, 2004).

Figure 8.2: Dior Fragrance Advertisement with Charlize Theron

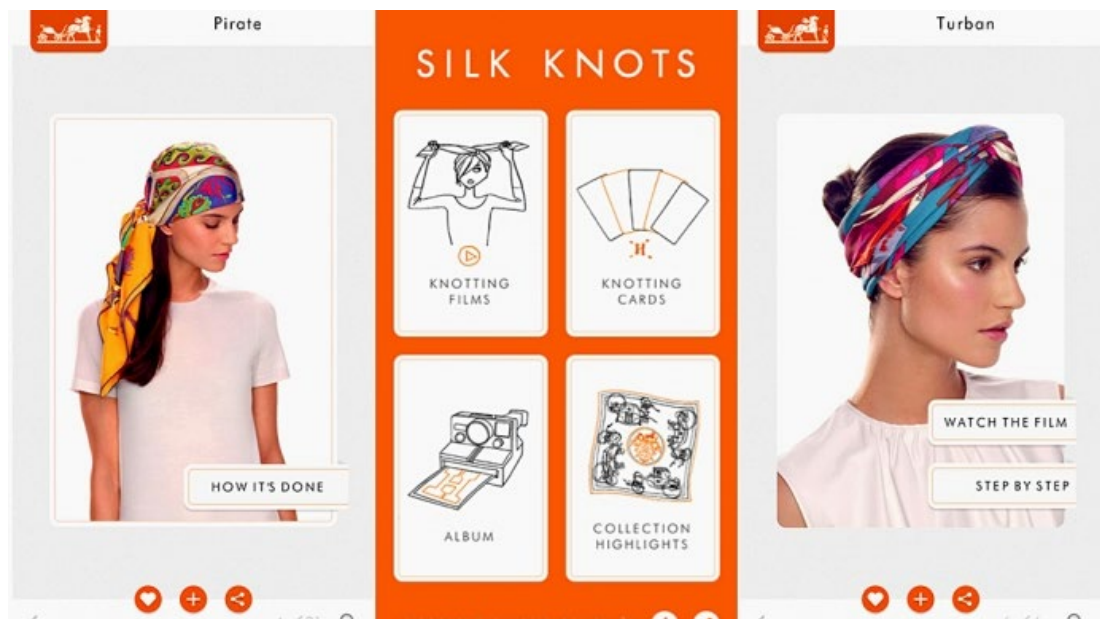


(Dior, 2018)

Second, luxury brand companies could bring luxury to their potential consumers by setting up events dedicated to both their loyal and potential consumers. For instance, Bottega Veneta hosted the 2017 Hand of the Artisan cocktail dinner in London to honour the new Bottega Veneta atelier (Churchill, 2017). The brand's iconic products were showcased and artisans demonstrated the process of weaving leather for bags and accessories (Smith, 2017). Moreover, as discussed in the literature, the presence of other consumers may also evoke the perception of competition, which may increase purchase intention (Ku et al. 2005; Garcia et al., 2013). This is a perfect way to connect with the loyal consumers and to launch the new product collections.

Third, the perception of competition can be encouraged by increasing brand awareness. As identified in the literature, to create a 'dream' brand, luxury brand companies must maintain a high level of awareness and demand, yet the supply must remain low (Phau & Prendergast, 2000). Luxury brands are desirable due to its emotional and symbolic meaning that become a source of sensual pleasure that cannot be reduced to mere functional quality (Kapferer, 1998). However, for this effect to happen, products or services have to be from brands that are renowned and prestigious symbolic of the lives of the rich and famous (Alleres, 2003; Kapferer, 2012). As such, brand awareness is an important component in increasing competition perception. To increase brand awareness, luxury companies could utilise their online platform to connect with their consumers and to remind consumers about the brand. As seen in Figure 8.3, Hermès developed an interactive app that shows how to tie the brand's scarves in 24 different ways and also provide update of their new scarves collection (Parr, 2014).

Figure 8.3: Hermès Silk Knots App



Silk Knots App (Parr,2018)

Luxury brand companies could also activate their influencers to communicate their brand or their new product launch to interested consumers. For instance, for the launch of Chanel's new N°5 Eau de Parfum, they invited selected influencers and high profile peoples to visit its production facility in South of France (Barker, 2016). The influencers were asked posted their journey to online platforms and used two brand-created hashtags, #newchanel5 and #chanelgrasse (Chang, 2016). The branded hashtag, #newchanel5, resulted in over 1,600 pieces of influencer and user-generated content and received almost one million engagement in the first month of the campaign (Chang, 2016). These brand awareness strategies are more likely to create hype surrounding the brand, which in turn, could potential increase the perception of competition for the product.

Last, in the context of luxury fine-dining restaurant, heuristic scarcity cues are not effective in evoking the perception of competition in consumers' mind. The research has found that perceived competition was not significantly different between control and demand-driven scarcity cue condition. While the mean difference of perceived competition between control and demand-driven scarcity cue condition is significant, the difference was minimal given the insignificant relationship between demand- and supply-driven scarcity cue condition. As such, luxury fine-dining restaurants should

find other ways to evoke the competition perception in order to increase brand/product valuation.

Luxury fine-dining restaurants could offer a seasonal degustation menu to build excitement and create a sense of urgency to purchase. As previously discussed, luxury experiential service is different from other tangible products in terms of its production cycle. Tangible products are limited to the manufacturing cycle and may no longer be available after it is discontinued, while restaurants offer relatively consistent service throughout their business period. Changing the menu seasonally breaks the consistent food offering, which in turn, provides new opportunities by bringing in existing customers to gain new experience – just like the first time they dine-in at the restaurant. It drives them to come in more often than they typically would if the menu remain unchanged. It also may appeal to the new consumers as the new menu selection may be suitable for their taste palate. From a business perspective, offering a seasonal menu allows the restaurants owner to use local ingredients that grow in specific seasons and to leverage ingredients that are produced locally.

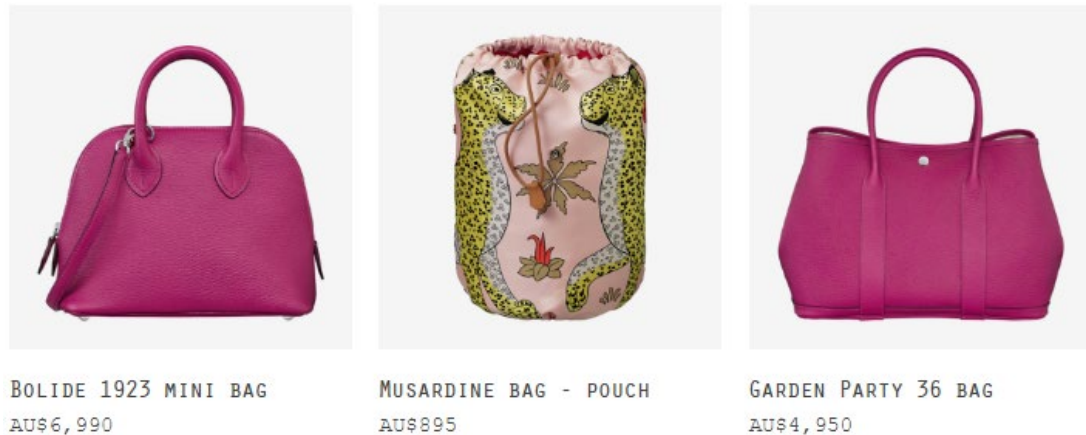
8.4.3.3 Offers insights into the importance of submissive behaviour among shoppers in a luxury branding context [Addressing RO4 – Gap 6]

The research has found that consumers may behave aggressively or submissively when they are exposed with luxury-branded products/services with scarcity cues. As discussed, due to the product scarcity and its high price tag, consumers with lower self-efficacy are more likely to behave submissively and choose to purchase alternative brands/products. The phenomenon was even more prominent in the luxury fine-dining restaurants, in which insignificant relationship was found between perceived value and purchase intention of the luxury fine-dining restaurants.

This phenomenon created an issue for the shareholders. Physical rarity is not desired by shareholders as it prevents fast growth and high sales. Shareholders want luxury brands companies to sell as many products as possible to garner more sales, yet trends within the luxury industry have demonstrated that increasing supply may cause a sales decline in the long run (Bagwell & Bernheim, 1996). A potential solution for luxury brand companies is to introduce alternative products targeting a lower social class consumers. Therefore, consumers who are unable to purchase the elite product range, are able to choose an alternative product which still produces revenue for the company. For example, Hermès Birkin is highly exclusive and valuable with luxury consumers

are willing to spend hundred-thousand dollars for a Birkin. However, as seen in Figure 8.4, Hermès also owns other product lines which are offered at a lower price and more. With this strategy, Hermès is able to maintain its product exclusivity and brand value whilst still maximising profit.

Figure 8.4: Hermès Handbag Collections



(Hermès 2018)

Alternatively, instead of introducing alternative products, luxury brands companies could also diversify at a brand level by developing a broader brand portfolio to target different groups of consumers. By having different brands within their portfolio, brands can cater to multiple target segments while minimising the risk brand image dilution as each brand has a clear brand positioning and target market. Corporate giant LVMH has several fashion brands in their brand portfolio which targets different types of customers in order to maximise profits. For instance, within their fashion and leather goods segment, Marc Jacobs targets aspiring consumers seeking affordable luxury, while Dior and Celine target upper class women who are able to afford expensive products. Similarly, in the luxury fine-dining restaurant contexts, the Gordon Ramsay Group owns a diverse restaurant portfolio to cater a wide range of target market such as Michelin Starred Au Trianon for the elite, Street Pizza Bread for families, and Maze Grill Park Walk for casual dining.

8.4.3.4 *Emphasise the importance of scarcity cues to appeal to consumers with high self-efficacy and to avoid brand dilution [Addressing RO5 – Gap 7 and RO6 – Gap 8]*

Although the research found no significant influence between perceived scarcity and perceived value in all studies, this research has found that consumers with greater self-efficacy are more willing to purchase limited edition luxury-branded products. Thus,

this finding indicates that consumers with high self-efficacy have a need to be different and unique. Additionally, since limited edition products are scarcer than non-limited products, they are able to satisfy the need of status and wealth better than non-limited products. As such, luxury brand managers need to create the illusion that luxury brands are not products which can be easily obtained and purchased. A few strategies may be implemented to maintain the scarcity of luxury-branded products. These strategies include:

1. Retail stores should implement shelf-based scarcity and not have an abundant stock of products within the store to create the perception of scarcity and exclusivity. For instance, Hermès introduced ‘patience’ as a very strong principle and element in its brand strategy. Customers cannot expect to acquire a Birkin handbag immediately and instead need to order the item and stay on a waiting list before it is ready (Hermès – The Strategy, 2018);
2. Luxury brand companies should not overproduce and/or excessively offer limited edition collections to maintain its scarcity and rarity. Rolls Royce offers a good example to illustrate this strategy. They aim to sell just one car more than was sold in the previous year and focus more on custom-made products;
3. Luxury companies may also offer personalised one-of-a-kind item that truly reflects their customer self-concept. For instance, Gucci offered DIY fashion in Milan which allows the customer to acquire a one-of-a-kind Gucci piece (Klerk, 2016);
4. Luxury brand managers should focus on promotions for their most expensive product ranges and the limited-edition collections (Kapferer, 2012). By only promoting their expensive product range and limited-edition line, the public (including the non-luxury consumers) to maintain the image of scarcity and exclusivity. It also the companies to discourages the masses from purchasing their products which may dilute the brand image, but at the same time maintain an aspirational motivation for the masses;
5. In term of distribution strategy, luxury brands should employ selective distribution strategy which limits the distribution channels and only distribute to prestigious areas and well-reputable retailers. Luxury brands could create product customisation specifically to local markets which is only distributed to the specific region to embrace the culture of the particular region.

For luxury fine-dining restaurants, luxury fine-dining restaurants should restrict or minimise walk-in patrons and the number of reservation each day to create the illusion of scarcity. As seen in Figure 8.6, Sublimotion, the world’s most expensive restaurant, only allows 12 patrons at a time and is also booked out months in advance (What you get, 2018). This strategy is useful in preserving the prestige of the brand and to increase consumers desire to purchase the service.

Figure 8.5: Dining at Sublimotion



(Meeroona 2017)

8.4.3.5 Offers insight on the importance of perceived knowledge (self-efficacy) in increasing purchase intention [Addressing RO5 – Gap 7]

Self-efficacy consists of the different elements which determine one’s ability in purchasing a product/service, including financial resources, skills, and knowledge. The implication of financial resources and skills has been discussed in the first contribution, so this contribution focuses on the consumers’ perceived knowledge of a specific product category. The current research found that self-efficacy plays an important role in enhancing the relationship between perceived value and purchase intention. As such, perceived knowledge seems to be crucial in determining purchase intention in the luxury fine-dining restaurant context. This can be explained by the fact that that consumers who have high knowledge in certain product categories are more

objective in making a purchasing decision as they understand the value of the product better than those who do not have the knowledge (Deval et al., 2012).

For tangible product categories (publicly consumed and privately consumed luxury-branded products), luxury brands should emphasise product craftsmanship and origin to the consumers to educate them regarding the brand essence and product quality. Luxury brands could communicate their brand personality and persona to consumers. Rolls Royce invited a selected few to visit its manufacturing facilities to see and experience its production process in person. This strategy is even more relevant and useful for privately consumed luxury-branded products since the appeal of privately-consumed luxury-branded products is more for its discreet benefits, instead of its role in signalling product status to other consumers. As such, consumers' knowledge regarding the brand history and craftsmanship is emphasised in privately-consumed luxury-branded products as compared to publicly consumed luxury-branded products. For instance, as seen in Figure 8.6, Chanel created an "Inside Chanel" campaign which involved Youtube videos to remind consumers of the brand's long history and unique vision (Gilliland, 2018).

Figure 8.6: Inside Chanel



(Chanel, 2013)

In the luxury service industry, consumers' knowledge is crucial for their success as they often rely heavily on credence attributes, which cannot be accurately evaluated by consumers. Luxury restaurant could organise a masterclass to inform consumers regarding the brand's philosophy, educate them on how to assess food quality, and show them the complexity of creating beautiful dishes. As seen in Figure 8.7, Michelin starred fine-dining restaurant, Petrus, occasionally organises chef masterclasses where

consumers can experience a three-hour masterclass focusing on the top Petrus' dishes to see a Michelin starred kitchen first hand and followed by a 3-course lunch with paired wines (Petrus Chef, 2018). As such, more consumers would understand the complexity and would be more appreciative of fine-dining cuisines.

Figure 8.7: Chef Masterclass at Petrus



(Petrus Chef, 2018).

Luxury restaurant brand managers could also provide information sheets, perhaps attached to the menu, to inform consumers of the characteristic of high-quality ingredients with reference to colour, taste, texture, and consistency. Additionally, the origin of the ingredients could be included on their websites or menus to provide insights into the ingredients' naturalness and freshness. For instance, in Steirereck im Stadtpark, a fine dining restaurant in Vienna headed by Heinz Reitbauer, most of the ingredients are sourced from Reitbauer's own farm in Austria (Begusto, 2017). All the ordered dishes are presented along with small cards to provide extra explanation regarding its ingredients (Begusto, 2017). The cards are informative and useful to introduce patrons to Steirereck's culinary universe. Therefore, patrons can objectively assess the quality of the product and services. Moreover, the biography of the head-chef along with their achievements and awards as well as third-party certification could also be presented to increase the credibility of the restaurant. For instance, Steirereck receives two Michelin stars and the number 10 spot on The World's 50 Best Restaurants, which offer a guarantee to consumers regarding the food and service standards.

8.5 LIMITATIONS AND FUTURE DIRECTIONS

Despite the many contributions of this study, there are a number of limitations that need to be addressed. Each of these limitations are discussed and the direction for future research are identified.

First, the current research only focused on Australians who purchase luxury-branded products or services on a regular basis. Australian consumers may have different cultural backgrounds, preferences and attitudes making it difficult for the results of this study to be generalised to other consumers from other countries. Future studies could replicate the study with luxury consumers from different cultural backgrounds in different countries to test and confirm the findings of this study.

Second, the current research only applied the developed theoretical framework in a luxury brands context. Future studies are able to apply the framework for different product categories, including non-luxury products. Since this research used existing but rather unfamiliar brands, future studies are able to examine using familiar brands.

Third, aggressive and submissive behaviour were only measured through a proxy (purchase intention), instead of the actual purchase behaviour. Thus, the current study may not be able to fully capture the actual aggressive and submissive behaviour in a real-world situation. Future studies could consider monitoring the luxury consumers' behaviour in real time to identify the specific behaviour of aggression and submission. An auction like simulation could also be conducted in future studies to provide a more accurate measurement for both aggressive and submissive behaviour.

Fourth, this study only focused only on two scarcity conditions (supply-driven and demand-driven scarcity cues). Although the two scarcity conditions were chosen due to their common application in the luxury branding context, future studies could focus on time-restricted scarcity cues. Furthermore, scarcity levels were not examined in this research to identify consumers' level of aggressiveness or submissiveness. Future studies could manipulate the level of scarcity to identify the optimum scarcity level at which consumers are most willing to purchase the luxury-branded products/services.

Fifth, the scale items for perceived scarcity only measured the scarcity perception within the store (products that are relatively scarce at one particular location or point in time but may not be scarce at other locations or points in time) (Van Herpen et al.,

2009). Perceived scarcity was not measured in an absolute sense, in which the number of products in a particular market situation is limited (Van Herpen et al., 2009). Given that there are now numerous channels through which products can be obtained, this needs to be addressed in future studies.

Sixth, other variables such as personality factors (self-esteem, status consumption, the need for uniqueness, etc.), income levels, the presence of an audience, individual self-concepts were not examined in this study. Future studies should consider including moderators that may influence consumers' decision in performing the aggressive or submissive behaviour in luxury branding context. The current research did not differentiate the respondents based on the consumers' characteristics as identified by Han et al. (2010). Future studies could consider integrating the four types of consumers into the developed framework to achieve a more accurate analysis of consumers' perception and behaviour towards luxury-branded products/services when advertised with heuristic scarcity cues.

Seventh, the research does not control for likeability of the featured model in the stimulus for both Study One and Study Two. Future research should ensure the featured model in all stimulus be made consistent across conditions. Moreover, the ad claim believability should also be controlled in future studies as this study believes that the respondents may be suspicious with the term "limited edition". As such, the influence of supply-driven scarcity cue can be clearly investigated without any confounding factors.

Last, the present research only examined the different product categories based on where the product is consumed (public or private). The rise of the luxury for the masses has caused consumers to purchase luxury-branded products with subtle branding as it is useful to signal only a handful of elite consumers within the inner circle. As such, brand signalling (subtle or blatant) is a potential future direction for this research.

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APPENDICES

Appendix A: Stimulus (Study One) – Publicly Consumed Luxury-branded Products

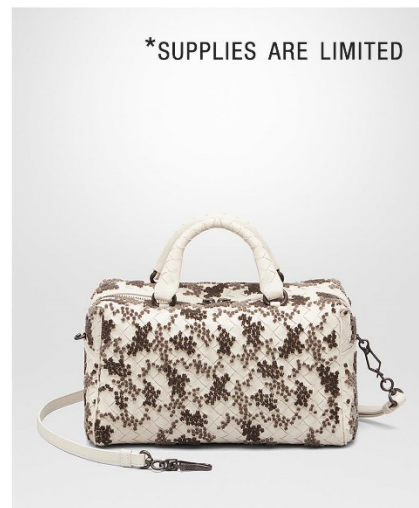
1. Female Stimulus

a. Elite Brand (Supply-driven Scarcity Cue)



BOTTEGA VENETA LIMITED EDITION HANDBAG

MINI BOTTEGA VENETA TOP HANDLE BAG



The boxy, compact shape of this *unique* boston bag is elevated by the clean, all-over intrecciato bottega craftsmanship. Crafted in soft Nappa, it features a double handle and a thin, adjustable and detachable shoulder strap, cleverly positioned on the side of the bag for easy access to the internal compartment. The suede-lined interior, closed with a double zip, has two pockets. Both functional and easy to wear, this design is thought for a contemporary lifestyle.

D: 13 W: 24 H: 14.5

FOLLOW US ON



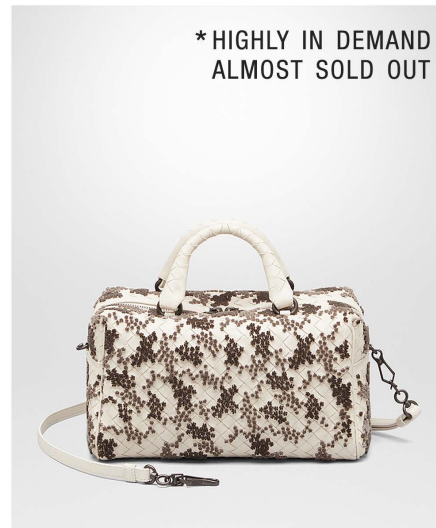
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b. Elite Brand (Demand-Driven Scarcity Cue)



**BOTTEGA VENETA
BESTSELLER HANDBAG**

MINI BOTTEGA VENETA TOP HANDLE BAG



The boxy, compact shape of this *popular* boston bag is elevated by the clean, all-over intrecciato bottega craftsmanship. Crafted in soft Nappa, it features a double handle and a thin, adjustable and detachable shoulder strap, cleverly positioned on the side of the bag for easy access to the internal compartment. The suede-lined interior, closed with a double zip, has two pockets. Both functional and easy to wear, this design is thought for a contemporary lifestyle.

D: 13 W: 24 H: 14.5

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c. Elite Brand (Control)



BOTTEGA VENETA NEW ARRIVAL HANDBAG

MINI BOTTEGA VENETA TOP HANDLE BAG



The boxy, compact shape of this new boston bag is elevated by the clean, all-over intrecciato bottega craftsmanship. Crafted in soft Nappa, it features a double handle and a thin, adjustable and detachable shoulder strap, cleverly positioned on the side of the bag for easy access to the internal compartment. The suede-lined interior, closed with a double zip, has two pockets. Both functional and easy to wear, this design is thought for a contemporary lifestyle.

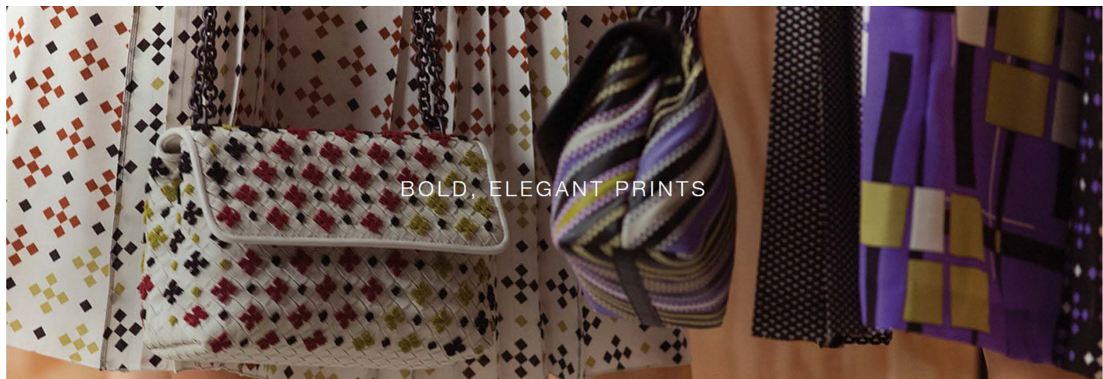
D: 13 W: 24 H: 14.5

FOLLOW US ON



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d. Alternative Brand



DEUX LUX NEW ARRIVAL HANDBAG

MINI DEUX LUX TOP HANDLE BAG



Crafted in leather, this mini duffel bag is ideal to carry all your necessities - two large exterior side pockets and a detachable cross body strap - yet extremely feminine and light. The refined palette of early autumnal hues adds a sense of chic playfulness to a demure and quietly unique style. The smooth suede interior is divided into two practical compartments, each fastened with a top zipper and a smaller smartphone pocket.

D: 13 W: 24 H: 14.5



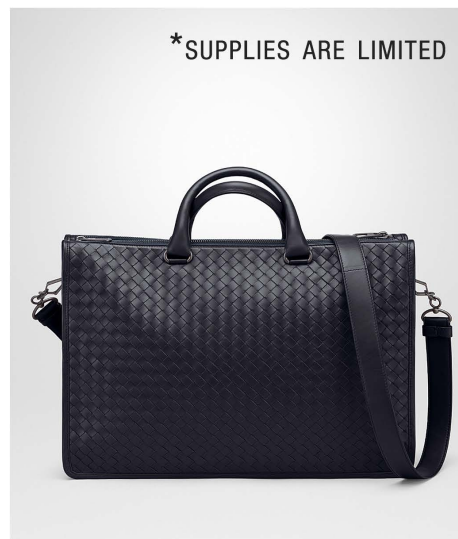
2. Male Stimulus

a. Elite Brand (Supply-driven Scarcity Cue)



BOTTEGA VENETA LIMITED EDITION HANDBAG

BOTTEGA VENETA BRIEFCASE IN INTRECCIATO CALF



The classic and *unique* features of this signature Bottega Veneta style meet an extremely functional and unconventional design. The hand-woven Leggero calf panels are offset by smooth leather detailing and an all-leather adjustable and detachable strap. The cotton-lined interior is built for the modern man, divided into three practical compartments with padded sections for your high-tech gadgets and multiple pockets

D: 10 W: 41 H: 28

FOLLOW US ON



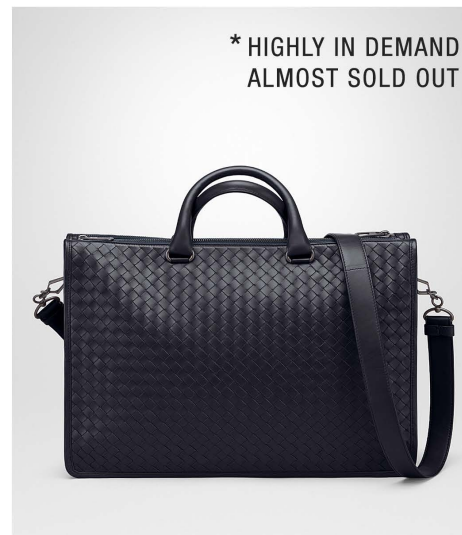
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b. Elite Brand (Demand-Driven Scarcity Cue)



**BOTTEGA VENETA
BESTSELLER HANDBAG**

BOTTEGA VENETA BRIEFCASE IN INTRECCIATO CALF



The classic and *popular* features of this signature Bottega Veneta style meet an extremely functional and unconventional design. The hand-woven Leggero calf panels are offset by smooth leather detailing and an all-leather adjustable and detachable strap. The cotton-lined interior is built for the modern man, divided into three practical compartments with padded sections for your high-tech gadgets and multiple pockets.

D: 10 W: 41 H: 28

FOLLOW US ON



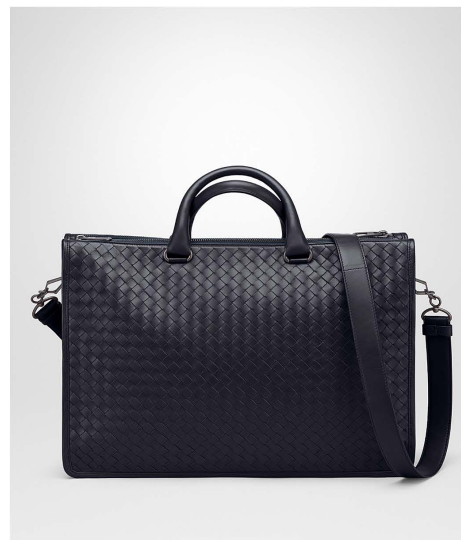
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c. Elite Brand (Control)



**BOTTEGA VENETA
NEW ARRIVAL HANDBAG**

BOTTEGA VENETA BRIEFCASE IN INTRECCIATO CALF



The classic features of this signature Bottega Veneta style meet an extremely functional and unconventional design. The hand-woven Leggero calf panels are offset by smooth leather detailing and an all-leather adjustable and detachable strap. The cotton-lined interior is built for the modern man, divided into three practical compartments with padded sections for your high-tech gadgets and multiple pockets

D: 10 W: 41 H: 28

FOLLOW US ON



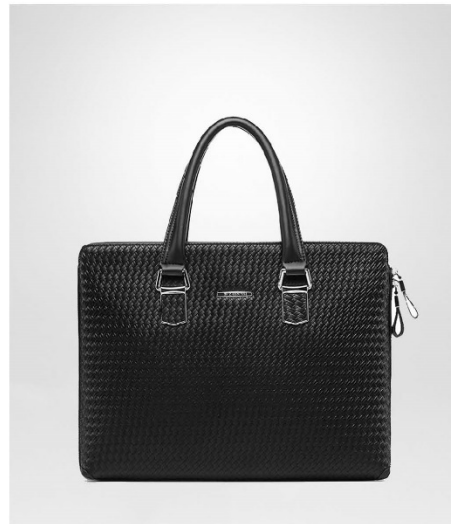
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d. Alternative Brand



DEUX LUX NEW ARRIVAL HANDBAG

DEUX LUX BRIEFCASE CALF LEATHER



Supreme elegance and functionality are the hallmarks of this luxurious briefcase. Crafted in smooth, light calf leather, the piece has been meticulously constructed using a special seamless technique. Perfect for all your on-duty needs, this sleek and organized design comes complete with three main compartments, a generous zip pocket, a detachable, sheer leather shoulder strap and hidden snap closures.

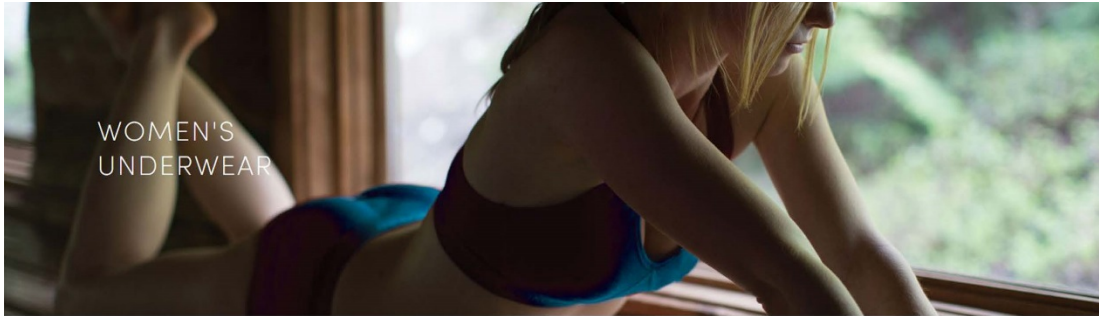
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Appendix B: Stimulus (Study Two) – Privately Consumed Luxury-branded Products

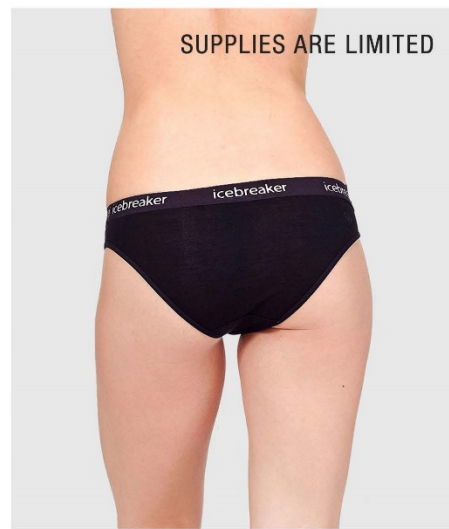
1. Female Stimulus

a. Elite Brand (Supply-driven Scarcity Cue)



ICEBREAKER LIMITED EDITION UNDERWEAR

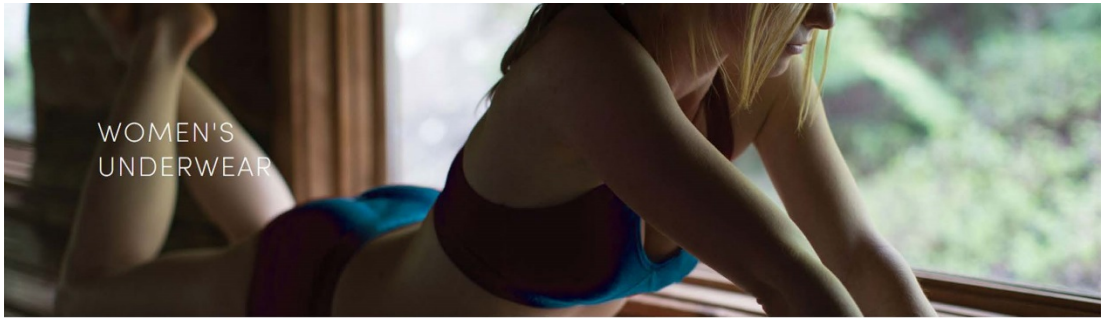
SEAMLESS LOGO BIKINI



Icebreaker's unique and modern revival has seen the logo print return in a big way. Bold, 90s style branding is perfectly in step with this season's progression of the athleisure trend and it's one that the Manhattan based label has championed since it started in 1968. The Seamless collection slices the logo print in a mock bad crop, as pictured on the waistband of the Seamless jersey bikini briefs. Stay comfortable all day in this seamless logo bikini by Icebreaker. Seamless lines make this a perfect choice for both day or night wear.

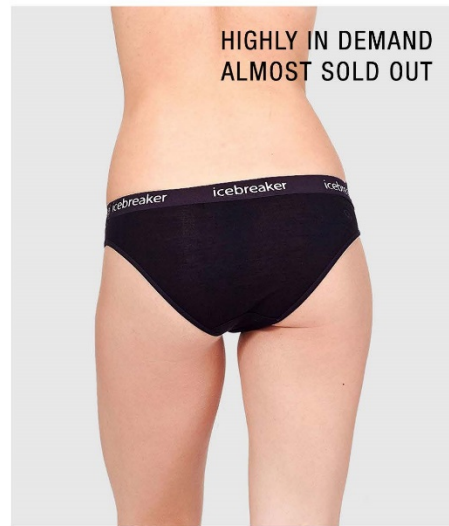


b. Elite Brand (Demand-Driven Scarcity Cue)



**ICEBREAKER
BESTSELLER UNDERWEAR**

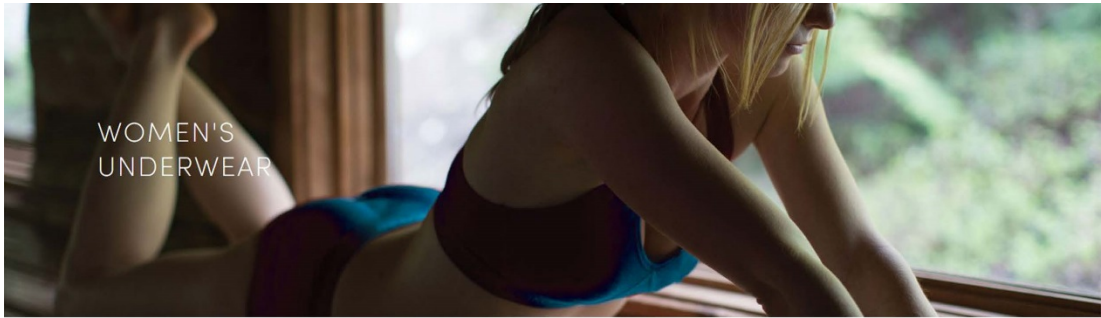
SEAMLESS LOGO BIKINI



Icebreaker's popular and modern revival has seen the logo print return in a big way. Bold, 90s style branding is perfectly in step with this season's progression of the athleisure trend and it's one that the Manhattan based label has championed since it started in 1968. The Seamless collection slices the logo print in a mock bad crop, as pictured on the waistband of the Seamless jersey bikini briefs. Stay comfortable all day in this seamless logo bikini by Icebreaker. Seamless lines make this a perfect choice for both day or night wear.



c. Elite Brand (Control)



**ICEBREAKER
NEW ARRIVAL UNDERWEAR**

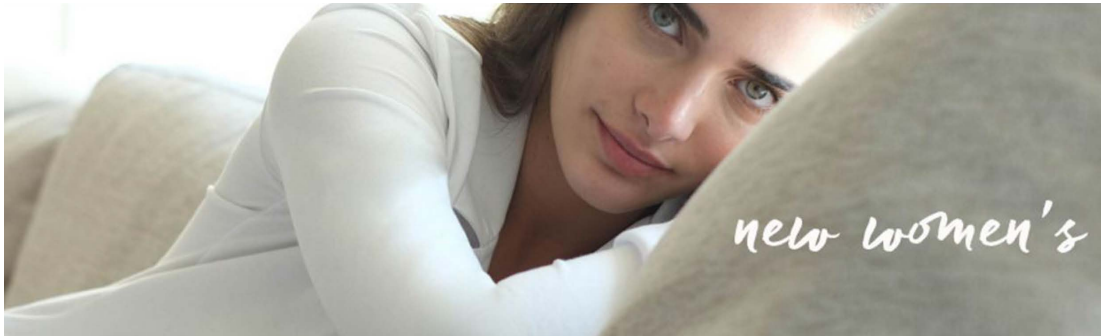
SEAMLESS LOGO BIKINI



Icebreaker's new and modern revival has seen the logo print return in a big way. Bold, 90s style branding is perfectly in step with this season's progression of the athleisure trend and it's one that the Manhattan based label has championed since it started in 1968. The Seamless collection slices the logo print in a mock bad crop, as pictured on the waistband of the Seamless jersey bikini briefs. Stay comfortable all day in this seamless logo bikini by Icebreaker. Seamless lines make this a perfect choice for both day or night wear.



d. Alternative Brand



**BAMBOO
NEW ARRIVAL UNDERWEAR**

SEAMLESS BASIC BIKINI

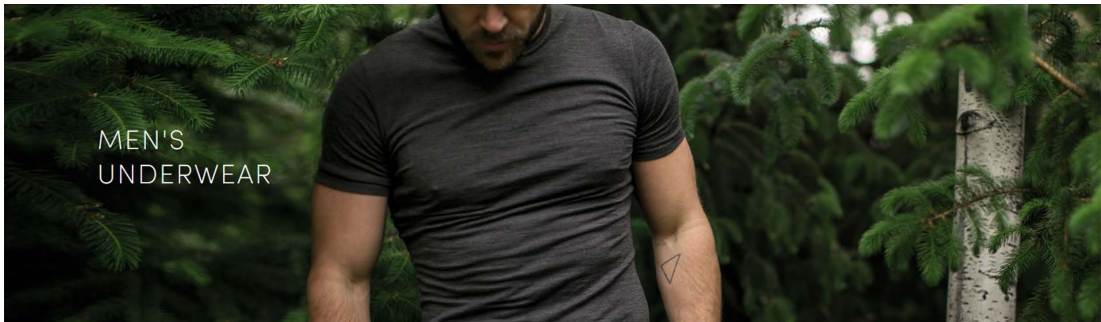


Get into Bamboo seamless cotton basics - a range that's anything but basic. With statement-making monochromes, logo waistbands and eye-popping prints, it's Bamboo at its best. Our women's underwear range has distinct nod to the Nineties. A mid rise cut makes it the perfect pair for amping up the everyday. You can never have too much of a good thing, which is why this classic cut is suited to all body shapes. A great everyday basic with a comfy fit, it covers and flatters with a lower leg line finish and low-rise waist.



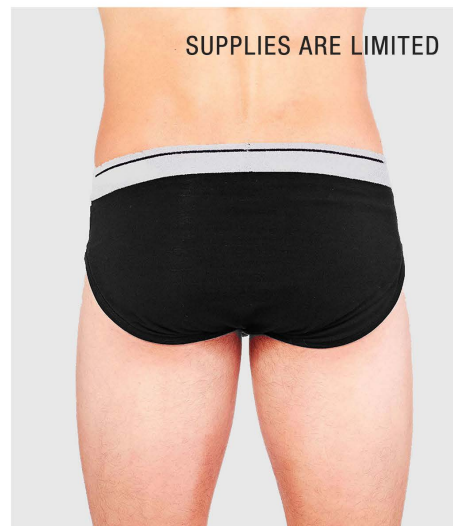
2. Male Stimulus

a. Elite Brand (Supply-driven Scarcity Cue)



ICEBREAKER LIMITED EDITION UNDERWEAR

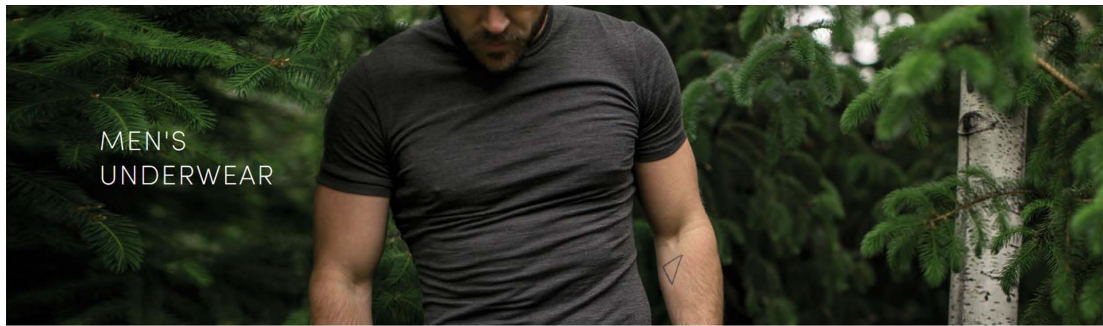
COTTON STRETCH HIP BRIEF



The unique and still the best; Icebreaker Hip Briefs remain an essential item in any man's wardrobe! When it comes to unmistakable comfort and support, Icebreaker's super-soft cotton briefs will surpass your every expectation. Clean lines and bold attitude define the aesthetic, kept strong since a 90s heyday with faultless, modern design. This brief keeps a constant style – branded waistband, cut high, full at the back – as stretch cotton embraces the body to become the underwear uniform of choice.

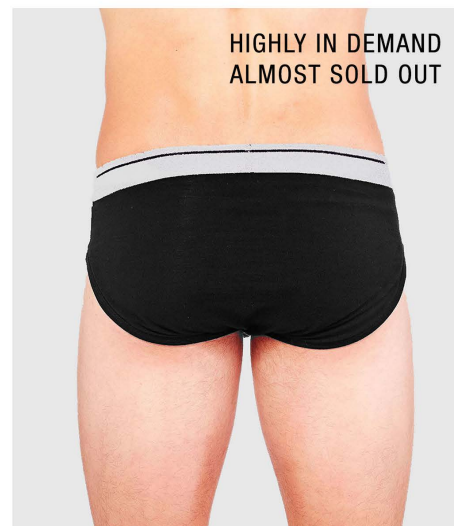


b. Elite Brand (Demand-Driven Scarcity Cue)



**ICEBREAKER
BESTSELLER UNDERWEAR**

COTTON STRETCH HIP BRIEF



The popular and still the best; Icebreaker Hip Briefs remain an essential item in any man's wardrobe! When it comes to unmistakable comfort and support, Icebreaker's super-soft cotton briefs will surpass your every expectation. Clean lines and bold attitude define the aesthetic, kept strong since a 90s heyday with faultless, modern design. This brief keeps a constant style – branded waistband, cut high, full at the back – as stretch cotton embraces the body to become the underwear uniform of choice.

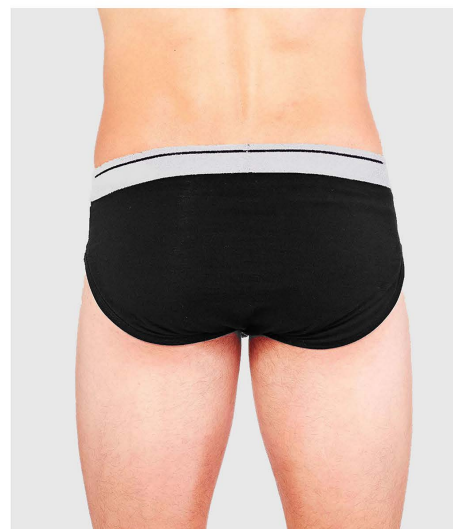


c. Elite Brand (Control)



**ICEBREAKER
NEW ARRIVAL UNDERWEAR**

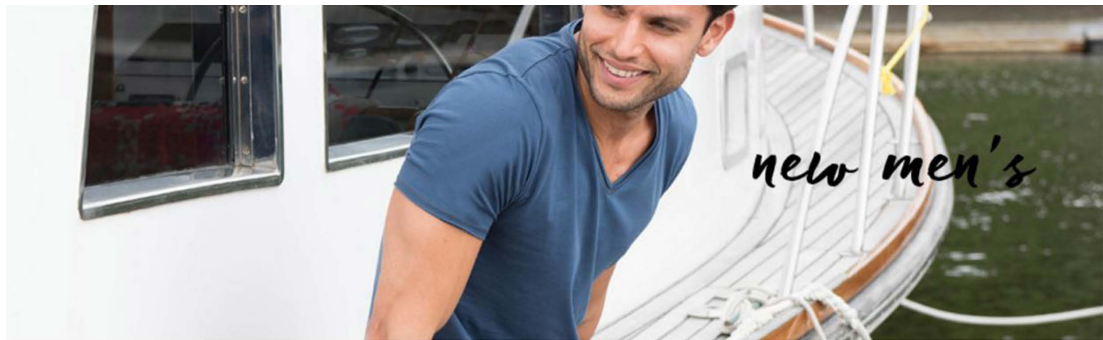
COTTON STRETCH HIP BRIEF



The new and still the best; Icebreaker Hip Briefs remain an essential item in any man's wardrobe! When it comes to unmistakable comfort and support, Icebreaker's super-soft cotton briefs will surpass your every expectation. Clean lines and bold attitude define the aesthetic, kept strong since a 90s heyday with faultless, modern design. This brief keeps a constant style – branded waistband, cut high, full at the back – as stretch cotton embraces the body to become the underwear uniform of choice.



d. Alternative Brand



**BAMBOO
NEW ARRIVAL UNDERWEAR**

COTTON STRETCH GUYFRONT BRIEF



Bamboo Guyfront Brief has all the features you need. Made of comfortable cotton stretch this classic style has a soft elastic waistband, is side seamfree and has a working fly. A classic style with a soft, signature elastic waistband, the Guy Front Brief from Bamboo is cut from a comfortable cotton blend and features the signature fly front with brand name trim. Cut for physique in the timeless design, the brief is crafted from the highest quality superior cotton-rich jersey.



Appendix C: Stimulus (Study Three) – Luxury Experiential Services

1. Elite Brand (Supply-Driven Scarcity Cue)

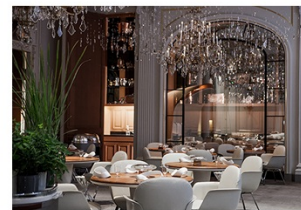


ALAIN DUCASSE



Alain Ducasse au Plaza Athénée

*Alain Ducasse au Plaza Athénée is the **MOST UNIQUE** luxurious fine dining Michelin Star restaurant. It was voted as one of the **best and most exclusive** French Haute Cuisine restaurant in the world, **servicing only 50 tables in a day.***



Make Reservation:

Lunch
Saturday and Sunday: 11.30 am to 2.15 pm
Dinner
Thursday to Sunday: 6.30 pm to 10.15 pm

Tel. +33 1 53 67 65 00
adpa@dorchestercollection.com

No slippers are allowed in the premises.
Blazer is required for gentlemen.

To ensure an exceptional dining experience, **all patrons are required to make table reservation. Please note that table availability is extremely limited. All patrons are encouraged to reserve table at least 4 weeks before.*

2. Elite Brand (Demand-Driven Scarcity Cue)



ALAIN DUCASSE



Alain Ducasse au Plaza Athénée

*Alain Ducasse au Plaza Athénée is the **MOST SOUGHT** luxurious fine dining Michelin Star restaurant. It was voted as one of the **best and highly in demand** French Haute Cuisine restaurant in the world.*



Make Reservation:

Lunch
Saturday and Sunday: 11.30 am to 2.15 pm
Dinner
Thursday to Sunday: 6.30 pm to 10.15 pm

Tel. +33 1 53 67 65 00
adpa@dorchestercollection.com

No slippers are allowed in the premises.
Blazer is required for gentlemen.

To ensure an exceptional dining experience, **all patrons are required to make table reservation. Due to increasing demand, please note that table availability is limited. All patrons are encouraged to reserve table at least 4 weeks before.*

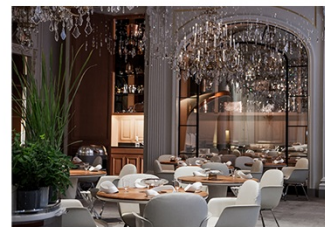


3. Elite Brand (Control)



Alain Ducasse au Plaza Athénée

*Alain Ducasse au Plaza Athénée is
the new gastronomic luxurious
Michelin Star restaurant offers
naturalité French Haute cuisine.*



Make Reservation:

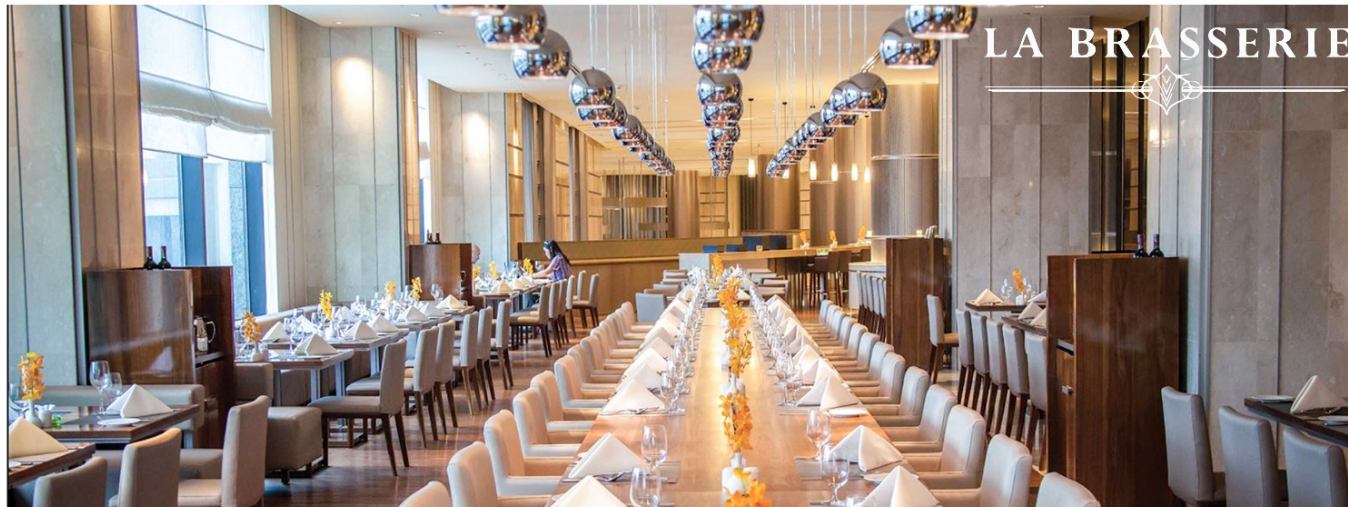
Lunch
Saturday and Sunday: 11.30 am to 2.15 pm
Dinner
Thursday to Sunday: 6.30 pm to 10.15 pm

Tel. +33 1 53 67 65 00
adpa@dorchestercollection.com

No slippers are allowed in the premises.
Blazer is required for gentlemen.

***To ensure an exceptional dining
experience, all patrons are
encouraged to make table
reservation.**

4. Alternative Brand



La Brasserie

La Brasserie's menu of authentic French classics gastronomy restaurant. Decadent but unpretentious and affordable: that is a summation of La Brasserie's food philosophy.



Make Reservation:

Lunch

Saturday and Sunday: 12.00 pm to 2.30 pm

Dinner

Thursday to Sunday: 6.30 pm to 10.30 pm

Tel. +33 1 63 33 83 88

lainfo@labrasserie.com

No slippers are allowed in the premises.
Blazer is required for gentlemen.

***To ensure an exceptional dining experience, all patrons are encouraged to make table reservation.**

Appendix D: Survey Instrument (Study One)

Dear Respondent,

I am conducting a study to understand how scarcity cue influence consumers perception and behaviour on luxury-branded products. The study is not linked to any particular brand and the data served only for the fulfilment of a Doctoral degree.

In this study, you will be asked to participate in a 20-minute online questionnaire. The return or submission of the question implies your consent to participate in the study. You have the right to refuse to participate in the survey questionnaire at any time without prejudice. Should you complete it, your anonymity is assured as all individual responses will remain strictly confidential. I would greatly appreciate your time in answering the survey questionnaire.

Curtin University's Ethics Committee has cleared the survey questionnaire in line with the university's policy on research with low risk involving human participants. For your reference, the ethics approval number for the survey questionnaire is HRE2016-0198

If you have any questions regarding the research, please feel free to contact me. Alternatively, you may contact Curtin University's Ethics Committee via phone on 9266 2784, email at hrec@curtin.edu.au or in writing to Office of Research and Development, Curtin University, GPO Box U1987, Perth WA 6845.

Thank you for your kind participation.

Researcher:

Elaine Sutrisna

Elaine.sutrisna@curtin.edu.au

School of Marketing, Curtin University

SECTION A

The following statements relate to your perception of **Bottega Veneta Brand**.

A1	Please rate the extent to which you agree or disagree with the following.	Strongly Disagree						Strongly Agree
1	I perceive the Bottega Veneta brand to be luxurious.	1	2	3	4	5	6	7
2	I perceive the Bottega Veneta brand to be exclusive.	1	2	3	4	5	6	7
3	I perceive the Bottega Veneta brand to be high-class.	1	2	3	4	5	6	7

SECTION B

The following statements relate to your perception of the **Bottega Veneta** handbag.

B1	When evaluating the Bottega Veneta handbag , I found that...	Strongly Disagree						Strongly Agree
1	The handbag is almost out of stock.	1	2	3	4	5	6	7
2	There are only limited numbers of the handbag.	1	2	3	4	5	6	7
3	The handbag is scarce.	1	2	3	4	5	6	7
4	The handbag is mostly available.	1	2	3	4	5	6	7
5	I can get the handbag easily.	1	2	3	4	5	6	7
6	I think this handbag is selling out soon.	1	2	3	4	5	6	7
7	I think that the current supply of this handbag is low.	1	2	3	4	5	6	7

B2	When evaluating the Bottega Veneta handbag	Strongly Disagree						Strongly Agree
1	I feel competition with other customers.	1	2	3	4	5	6	7
2	I am conscious about other customers' behaviour.	1	2	3	4	5	6	7
3	I feel like I am competing with other shoppers for the bag.	1	2	3	4	5	6	7
4	I feel like others will get the bag if I am not fast enough.	1	2	3	4	5	6	7
5	Trying to buy this product is going to be a competition.	1	2	3	4	5	6	7

B3	What are your perception towards the Bottega Veneta handbag ?	Strongly Disagree						Strongly Agree
1	It is a product that I will enjoy.	1	2	3	4	5	6	7
2	It will make me want to use it.	1	2	3	4	5	6	7
3	It is a product that I will feel relaxed about using.	1	2	3	4	5	6	7
4	It will make me feel good.	1	2	3	4	5	6	7
5	It will give me pleasure.	1	2	3	4	5	6	7
6	It has consistent quality.	1	2	3	4	5	6	7
7	It is well made.	1	2	3	4	5	6	7
8	It has an acceptable standard of quality.	1	2	3	4	5	6	7
9	It has poor workmanship.	1	2	3	4	5	6	7
10	If you read this item, please do not respond to it.	1	2	3	4	5	6	7
11	It will not last a long time.	1	2	3	4	5	6	7
12	It will perform consistently.	1	2	3	4	5	6	7
13	It will help me to feel acceptable.	1	2	3	4	5	6	7
14	It will improve the way I am perceived.	1	2	3	4	5	6	7
15	It will make a good impression on other people.	1	2	3	4	5	6	7
16	It will give its owner social approval.	1	2	3	4	5	6	7
17	It is reasonably priced.	1	2	3	4	5	6	7
18	It offers value for money.	1	2	3	4	5	6	7

19	It is a good product for the price.	1	2	3	4	5	6	7
20	It would be economical.	1	2	3	4	5	6	7

B4	Please rate the extent to which you agree or disagree with the following.	Strongly Disagree						Strongly Agree
1	I am able to purchase Bottega Veneta handbags without the help of others.	1	2	3	4	5	6	7
2	I have the necessary time to purchase Bottega Veneta handbags.	1	2	3	4	5	6	7
3	I have the knowledge required to purchase Bottega Veneta handbags.	1	2	3	4	5	6	7
4	I have the skills required to purchase Bottega Veneta handbags.	1	2	3	4	5	6	7
5	I am able to purchase Bottega Veneta handbags reasonably well on my own.	1	2	3	4	5	6	7
6	I have the financial resources required to purchase Bottega Veneta handbags.	1	2	3	4	5	6	7

SECTION C

The following statements relate to your perceptions of **Deux Lux Brand**.

C1	Please rate the extent to which you agree or disagree with the following	Strongly Disagree						Strongly Agree
1	I am knowledgeable about the Deux Lux brand.	1	2	3	4	5	6	7
2	I am familiar with the Deux Lux brand.	1	2	3	4	5	6	7

The following statements relate to your purchase intention of the **Bottega Veneta** handbag in comparison to **Deux Lux** handbag.

C2	Please rate the extent to which you agree or disagree with the following (1 stands for Deux Lux handbag, 4 stands for neither handbag, while 7 stands for Bottega Veneta Handbag).	Deux Lux handbag	Neither Handbag				Bottega Veneta Handbag	
1	I have a high likelihood of purchasing _____.	1	2	3	4	5	6	7
2	I intend to buy the _____.	1	2	3	4	5	6	7
3	I would absolutely consider buying the _____.	1	2	3	4	5	6	7
4	In near future, I absolutely plan to buy the _____.	1	2	3	4	5	6	7
5	I definitely expect to buy the _____.	1	2	3	4	5	6	7

SECTION D

The following section contains demographic questions that are used to help classify information. Your responses will not be linked to you in any way and will remain confidential. Please answer all questions by circling one number for each question.

1	What is your gender?			
[1]	Male	[2]	Female	

2	What is your age group?				
[1]	Under 20 years	[2]	20 – 25 years	[3]	26 – 30 years
[4]	31 – 35 years	[5]	36 – 40 years	[6]	41 - 45 years
[7]	46 – 55 years	[8]	56 – 65 years	[9]	Above 65 years

3	What is your current marital status?			
[1]	Single	[2]	In a relationship	
[3]	De Facto	[4]	Married	

4	What is your field of occupation? (Please choose one only)				
[1]	Manager	[2]	Professional	[3]	Technician/Trades Worker
[4]	Community and Personal Service Worker	[5]	Clerical and Administrative Worker	[6]	Sales Worker
[7]	Machinery Operator/Driver	[8]	Labourer	[9]	Student
[10]	Retired	[11]	Other (Please Specify)		

5	What is your current home ownership status?				
[1]	Living with parents	[2]	Renting	[3]	Mortgage with bank
[4]	100% home ownership	[5]	Other (Please specify) _____		

6	What is the level of your education qualifications?				
[1]	Primary School	[2]	Secondary/High School	[3]	Diploma/Certificate
[4]	Undergraduate Degree	[5]	Postgraduate Degree	[6]	Other (Please specify) _____

7	What is your annual income? (Income per annum in USD)				
[1]	Under \$14,999	[2]	\$15, 000 - \$29, 999	[3]	\$30, 000 - \$49,999
[4]	\$50,000 - \$74,999	[5]	\$75,000 - \$99,999	[6]	\$100,000 - \$149,999
[7]	\$150,000 - \$199,999	[8]	\$200,000 and above		

**End of survey
Thank you for your time and participation!**

Appendix E: Survey Instrument (Study Two)

Dear Respondent,

I am conducting a study to understand how scarcity cue influence consumers perception and behaviour on luxury-branded products. The study is not linked to any particular brand and the data served only for the fulfilment of a Doctoral degree.

In this study, you will be asked to participate in a 20-minute online questionnaire. The return or submission of the question implies your consent to participate in the study. You have the right to refuse to participate in the survey questionnaire at any time without prejudice. Should you complete it, your anonymity is assured as all individual responses will remain strictly confidential. I would greatly appreciate your time in answering the survey questionnaire.

Curtin University's Ethics Committee has cleared the survey questionnaire in line with the university's policy on research with low risk involving human participants. For your reference, the ethics approval number for the survey questionnaire is HRE2016-0198

If you have any questions regarding the research, please feel free to contact me. Alternatively, you may contact Curtin University's Ethics Committee via phone on 9266 2784, email at hrec@curtin.edu.au or in writing to Office of Research and Development, Curtin University, GPO Box U1987, Perth WA 6845.

Thank you for your kind participation.

Researcher:

Elaine Sutrisna

Elaine.sutrisna@curtin.edu.au

School of Marketing, Curtin University

SECTION A

The following statements relate to your perception of **IceBreaker Brand**.

A1	Please rate the extent to which you agree or disagree with the following.	Strongly Disagree						Strongly Agree
1	I perceive the Icebreaker brand to be luxurious.	1	2	3	4	5	6	7
2	I perceive the Icebreaker brand to be exclusive.	1	2	3	4	5	6	7
3	I perceive the Icebreaker brand to be high-class.	1	2	3	4	5	6	7

SECTION B

The following statements relate to your perception of the **Icebreaker** underwear.

B1	When evaluating the Icebreaker underwear , I found that...	Strongly Disagree						Strongly Agree
1	The underwear is almost out of stock.	1	2	3	4	5	6	7
2	There are only limited numbers of the underwear.	1	2	3	4	5	6	7
3	The underwear is scarce.	1	2	3	4	5	6	7
4	The underwear is mostly available.	1	2	3	4	5	6	7
5	I can get the underwear easily.	1	2	3	4	5	6	7
6	I think this underwear is selling out soon.	1	2	3	4	5	6	7
7	I think that the current supply of this underwear is low.	1	2	3	4	5	6	7

B2	When evaluating the Icebreaker underwear	Strongly Disagree						Strongly Agree
1	I feel competition with other customers.	1	2	3	4	5	6	7
2	I am conscious about other customers' behaviour.	1	2	3	4	5	6	7
3	I feel like I am competing with other shoppers for the underwear.	1	2	3	4	5	6	7
4	I feel like others will get the underwear if I am not fast enough.	1	2	3	4	5	6	7
5	Trying to buy this product is going to be a competition.	1	2	3	4	5	6	7

B3	What are your perception towards the the Icebreaker underwear ?	Strongly Disagree						Strongly Agree
1	It is a product that I will enjoy.	1	2	3	4	5	6	7
2	It will make me want to use it.	1	2	3	4	5	6	7
3	It is a product that I will feel relaxed about using.	1	2	3	4	5	6	7
4	It will make me feel good.	1	2	3	4	5	6	7
5	It will give me pleasure.	1	2	3	4	5	6	7
6	It has consistent quality.	1	2	3	4	5	6	7
7	It is well made.	1	2	3	4	5	6	7
8	It has an acceptable standard of quality.	1	2	3	4	5	6	7
9	It has poor workmanship.	1	2	3	4	5	6	7
10	If you read this item, please do not respond to it.	1	2	3	4	5	6	7
11	It will not last a long time.	1	2	3	4	5	6	7
12	It will perform consistently.	1	2	3	4	5	6	7
13	It will help me to feel acceptable.	1	2	3	4	5	6	7
14	It will improve the way I am perceived.	1	2	3	4	5	6	7
15	It will make a good impression on other people.	1	2	3	4	5	6	7
16	It will give its owner social approval.	1	2	3	4	5	6	7

17	It is reasonably priced.	1	2	3	4	5	6	7
18	It offers value for money.	1	2	3	4	5	6	7
19	It is a good product for the price.	1	2	3	4	5	6	7
20	It would be economical.	1	2	3	4	5	6	7

B4	Please rate the extent to which you agree or disagree with the following.	Strongly Disagree						Strongly Agree
1	I am able to purchase Icebreaker underwear without the help of others.	1	2	3	4	5	6	7
2	I have the necessary time to purchase Icebreaker underwear.	1	2	3	4	5	6	7
3	I have the knowledge required to purchase Icebreaker underwear.	1	2	3	4	5	6	7
4	I have the skills required to purchase Icebreaker underwear.	1	2	3	4	5	6	7
5	I am able to purchase Icebreaker underwear reasonably well on my own.	1	2	3	4	5	6	7
6	I have the financial resources required to purchase Icebreaker underwear.	1	2	3	4	5	6	7

SECTION C

The following statements relate to your perceptions of **Bamboo Brand**.

C1	Please rate the extent to which you agree or disagree with the following	Strongly Disagree						Strongly Agree
1	I am knowledgeable about the Bamboo brand.	1	2	3	4	5	6	7
2	I am familiar with the Bamboo brand.	1	2	3	4	5	6	7

The following statements relate to your purchase intention of the **Icebreaker** underwear in comparison to **Bamboo** underwear.

C2	Please rate the extent to which you agree or disagree with the following (1 stands for Bamboo underwear, 4 stands for neither underwear, while 7 stands for Icebreaker underwear).	Bamboo Underwear						Neither underwear			Icebreaker underwear
1	I have a high likelihood of purchasing _____.	1	2	3	4	5	6	7			
2	I intend to buy the _____.	1	2	3	4	5	6	7			
3	I would absolutely consider buying the _____.	1	2	3	4	5	6	7			
4	In near future, I absolutely plan to buy the _____.	1	2	3	4	5	6	7			
5	I definitely expect to buy the _____.	1	2	3	4	5	6	7			

SECTION D

The following section contains demographic questions that are used to help classify information. Your responses will not be linked to you in any way and will remain confidential. Please answer all questions by circling one number for each question.

1	What is your gender?			
[1]	Male	[2]	Female	

2	What is your age group?				
[1]	Under 20 years	[2]	20 – 25 years	[3]	26 – 30 years
[4]	31 – 35 years	[5]	36 – 40 years	[6]	41 - 45 years
[7]	46 – 55 years	[8]	56 – 65 years	[9]	Above 65 years

3	What is your current marital status?			
[1]	Single	[2]	In a relationship	
[3]	De Facto	[4]	Married	

4	What is your field of occupation? (Please choose one only)				
[1]	Manager	[2]	Professional	[3]	Technician/Trades Worker
[4]	Community and Personal Service Worker	[5]	Clerical and Administrative Worker	[6]	Sales Worker
[7]	Machinery Operator/Driver	[8]	Labourer	[9]	Student
[10]	Retired	[11]	Other (Please Specify)		

5	What is your current home ownership status?				
[1]	Living with parents	[2]	Renting	[3]	Mortgage with bank
[4]	100% home ownership	[5]	Other (Please specify) _____		

6	What is the level of your education qualifications?				
[1]	Primary School	[2]	Secondary/High School	[3]	Diploma/Certificate
[4]	Undergraduate Degree	[5]	Postgraduate Degree	[6]	Other (Please specify) _____

7	What is your annual income? (Income per annum in USD)				
[1]	Under \$14,999	[2]	\$15, 000 - \$29, 999	[3]	\$30, 000 - \$49,999
[4]	\$50,000 - \$74,999	[5]	\$75,000 - \$99,999	[6]	\$100,000 - \$149,999
[7]	\$150,000 - \$199,999	[8]	\$200,000 and above		

End of survey
Thank you for your time and participation!

Appendix F: Survey Instrument (Study Three)

Dear Respondent,

I am conducting a study to understand how scarcity cue influence consumers perception and behaviour on luxury fine-dining restaurants. The study is not linked to any particular brand and the data served only for the fulfilment of a Doctoral degree.

In this study, you will be asked to participate in a 20-minute online questionnaire. The return or submission of the question implies your consent to participate in the study. You have the right to refuse to participate in the survey questionnaire at any time without prejudice. Should you complete it, your anonymity is assured as all individual responses will remain strictly confidential. I would greatly appreciate your time in answering the survey questionnaire.

Curtin University's Ethics Committee has cleared the survey questionnaire in line with the university's policy on research with low risk involving human participants. For your reference, the ethics approval number for the survey questionnaire is HRE2016-0198

If you have any questions regarding the research, please feel free to contact me. Alternatively, you may contact Curtin University's Ethics Committee via phone on 9266 2784, email at hrec@curtin.edu.au or in writing to Office of Research and Development, Curtin University, GPO Box U1987, Perth WA 6845.

Thank you for your kind participation.

Researcher:

Elaine Sutrisna

Elaine.sutrisna@curtin.edu.au

School of Marketing, Curtin University

SECTION A

The following statements relate to your perceptions of Alain Ducasse au Plaza Athénée Brand.

A1	Please rate the extent to which you agree or disagree with the following.	Strongly Disagree						Strongly Agree
1	Alain Ducasse au Plaza Athénée fine dining restaurant is luxurious.	1	2	3	4	5	6	7
2	Alain Ducasse au Plaza Athénée fine dining restaurant is high-status.	1	2	3	4	5	6	7
3	Alain Ducasse au Plaza Athénée fine dining restaurant is expensive.	1	2	3	4	5	6	7

SECTION B

The following statements relate to your personality trait and reflection of yourself.

B1	Please rate the extent to which you agree or disagree with the following	Not at all true of me						Extremely true of me
1	My opinion on food products does not seem to count to other people.	1	2	3	4	5	6	7
2	When they choose food products, other people do not turn to me for advice.	1	2	3	4	5	6	7
3	Other people rarely come to me for advice in choosing food products.	1	2	3	4	5	6	7
4	People that I know pick food products based on what I told them.	1	2	3	4	5	6	7
5	I often persuade other people to buy food products that I like.	1	2	3	4	5	6	7
6	I often influence people's opinion about food products.	1	2	3	4	5	6	7

B2	Please rate the extent to which you agree or disagree with the following	Not at all true of me						Extremely true of me
1	When I consider buying food products, I ask other people for advice.	1	2	3	4	5	6	7
2	I don't need to talk to others before I buy food products.	1	2	3	4	5	6	7
3	I rarely ask other people what food products to buy.	1	2	3	4	5	6	7
4	I like to get others' opinions before I buy food products.	1	2	3	4	5	6	7
5	I feel more comfortable buying food products when I have gotten other people's opinions on it.	1	2	3	4	5	6	7
6	When choosing food products, other people's opinion are not important to me.	1	2	3	4	5	6	7

The following statements relate to your perceptions of Alain Ducasse au Plaza Athénée restaurant.

B3	When evaluating <u>the Alain Ducasse au Plaza Athénée restaurant</u>, I found that...	Strongly Disagree	Strongly Agree
1	The seats are almost unattainable.	1 2 3 4 5 6 7	
2	There are only limited numbers of the seats available.	1 2 3 4 5 6 7	
3	The seats availability are scarce.	1 2 3 4 5 6 7	
4	The seats are mostly available.	1 2 3 4 5 6 7	
5	I can get reservation easily.	1 2 3 4 5 6 7	

B4	When evaluating <u>the Alain Ducasse au Plaza Athénée restaurant</u>	Strongly Disagree	Strongly Agree
1	I feel competition with other customers.	1 2 3 4 5 6 7	
2	I am conscious about other customers' behaviour.	1 2 3 4 5 6 7	
3	I feel like I am competing with other customers for table reservation.	1 2 3 4 5 6 7	
4	I feel like others will get the table reservation if I am not fast enough.	1 2 3 4 5 6 7	
5	Trying to get table reservation is going to be a competition.	1 2 3 4 5 6 7	

B5	What are your perception towards the <u>Alain Ducasse au Plaza Athénée restaurant</u>?	Strongly Disagree	Strongly Agree
1	It is an experience that I will enjoy.	1 2 3 4 5 6 7	
2	It will make me want to experience it.	1 2 3 4 5 6 7	
3	It is a service that I will feel comfortable about experiencing.	1 2 3 4 5 6 7	
4	It will make me feel good.	1 2 3 4 5 6 7	
5	It will give me pleasure.	1 2 3 4 5 6 7	
6	It has consistent quality.	1 2 3 4 5 6 7	
7	It will provide a well-packaged experience	1 2 3 4 5 6 7	
8	It seems to have an acceptable standard of food and service quality.	1 2 3 4 5 6 7	
9	It has poor culinary artistry.	1 2 3 4 5 6 7	
10	If you read this item, please do not respond to it.	1 2 3 4 5 6 7	
11	The restaurant will not last a long time.	1 2 3 4 5 6 7	
12	It seems to have reliable food and services.	1 2 3 4 5 6 7	
13	It will help me to feel acceptable.	1 2 3 4 5 6 7	
14	It will improve the way I am perceived.	1 2 3 4 5 6 7	
15	It will make a good impression on other people.	1 2 3 4 5 6 7	
16	It will give its owner social approval.	1 2 3 4 5 6 7	
17	It is reasonably priced.	1 2 3 4 5 6 7	
18	It offers value for money.	1 2 3 4 5 6 7	
19	It is a good product for the price.	1 2 3 4 5 6 7	
20	It would be economical.	1 2 3 4 5 6 7	

B6	Please rate the extent to which you agree or disagree with the following.	Strongly Disagree						Strongly Agree
1	I am able to dine in at Alain Ducasse au Plaza Athénée without the help of others.	1	2	3	4	5	6	7
2	I have the necessary time to make reservation and dine in at Alain Ducasse au Plaza Athénée .	1	2	3	4	5	6	7
3	I have the skills and knowledge required to make reservation and dine in Alain Ducasse au Plaza Athénée .	1	2	3	4	5	6	7
4	I am able to afford dining in at Alain Ducasse au Plaza Athénée with ease.	1	2	3	4	5	6	7
5	I am able to purchase Alain Ducasse au Plaza Athénée food reasonably well on my own.	1	2	3	4	5	6	7
6	I have the financial resources required to buy the food at Alain Ducasse au Plaza Athénée .	1	2	3	4	5	6	7

SECTION C

The following statements relate to your perceptions of **La Brasserie** budget fine dining restaurant.

C1	Please rate the extent to which you agree or disagree with the following	Strongly Disagree						Strongly Agree
1	I am familiar with the La Brasserie restaurant.	1	2	3	4	5	6	7
2	I like the La Brasserie restaurant.	1	2	3	4	5	6	7

The following statements relate to your purchase intention of the **Alain Ducasse au Plaza Athénée** in comparison to **La Brasserie**.

C2	Please rate the extent to which you agree or disagree with the following (1 stands for La Brasserie, 4 stands for neither restaurant, while 7 stands for Alain Ducasse au Plaza Athénée).	Brasserie Gavroche	Neither restaurant			Ducasse au Plaza Athénée		
1	I have a high likelihood of dining at _____.	1	2	3	4	5	6	7
2	I intend to dine at the _____.	1	2	3	4	5	6	7
3	I would absolutely consider dining at the _____.	1	2	3	4	5	6	7
4	In near future, I absolutely plan to dine in at the _____.	1	2	3	4	5	6	7
5	I definitely expect to dine in at the _____.	1	2	3	4	5	6	7

SECTION D

The following section contains demographic questions that are used to help classify information. Your responses will not be linked to you in any way and will remain confidential. Please answer all questions by circling one number for each question.

1	What is your gender?			
[1]	Male	[2]	Female	

2	What is your age group?				
[1]	Under 20 years	[2]	20 – 25 years	[3]	26 – 30 years
[4]	31 – 35 years	[5]	36 – 40 years	[6]	41 - 45 years
[7]	46 – 55 years	[8]	56 – 65 years	[9]	Above 65 years

3	What is your current marital status?			
[1]	Single	[2]	In a relationship	
[3]	De Facto	[4]	Married	

4	What is your field of occupation? (Please choose one only)				
[1]	Manager	[2]	Professional	[3]	Technician/Trades Worker
[4]	Community and Personal Service Worker	[5]	Clerical and Administrative Worker	[6]	Sales Worker
[7]	Machinery Operator/Driver	[8]	Labourer	[9]	Student
[10]	Retired	[11]	Other (Please Specify)		

5	What is your current home ownership status?				
[1]	Living with parents	[2]	Renting	[3]	Mortgage with bank
[4]	100% home ownership	[5]	Other (Please specify) _____		

6	What is the level of your education qualifications?				
[1]	Primary School	[2]	Secondary/High School	[3]	Diploma/Certificate
[4]	Undergraduate Degree	[5]	Postgraduate Degree	[6]	Other (Please specify) _____

7	What is your annual income? (Income per annum in USD)				
[1]	Under \$14,999	[2]	\$15, 000 - \$29, 999	[3]	\$30, 000 - \$49,999
[4]	\$50,000 - \$74,999	[5]	\$75,000 - \$99,999	[6]	\$100,000 - \$149,999
[7]	\$150,000 - \$199,999	[8]	\$200,000 and above		

**End of survey
Thank you for your time and participation!**

Appendix G: Ethics Approval Form



Office of Research and Development

GPO Box U1987
Perth Western Australia 6845

Telephone +61 8 9266 7863
Facsimile +61 8 9266 3793
Web research.curtin.edu.au

12-Aug-2016

Name: Hui Min Teah
Department/School: School of Marketing
Email: Min.Teah@cbs.curtin.edu.au

Dear Hui Min Teah

RE: Ethics approval
Approval number: HRE2016-0198

Thank you for submitting your application to the Human Research Ethics Office for the project **A Study of Agonistic behaviour in Luxury Brand Consumption**.

Your application was reviewed through the Curtin University low risk ethics review process.

The review outcome is: **Approved**.

Your proposal meets the requirements described in National Health and Medical Research Council's (NHMRC) *National Statement on Ethical Conduct in Human Research (2007)*.

Approval is granted for a period of one year from **12-Aug-2016** to **11-Aug-2017**. Continuation of approval will be granted on an annual basis following submission of an annual report.

Personnel authorised to work on this project:

Name	Role
Teah, Hui Min	Supervisor
Sutrisna, Elaine	Student
Phau, Yong	Supervisor

Standard conditions of approval

1. Research must be conducted according to the approved proposal
2. Report in a timely manner anything that might warrant review of ethical approval of the project including:
 - proposed changes to the approved proposal or conduct of the study
 - unanticipated problems that might affect continued ethical acceptability of the project
 - major deviations from the approved proposal and/or regulatory guidelines

- serious adverse events
3. Amendments to the proposal must be approved by the Human Research Ethics Office before they are implemented (except where an amendment is undertaken to eliminate an immediate risk to participants)
 4. An annual progress report must be submitted to the Human Research Ethics Office on or before the anniversary of approval and a completion report submitted on completion of the project
 5. Personnel working on this project must be adequately qualified by education, training and experience for their role, or supervised
 6. Personnel must disclose any actual or potential conflicts of interest, including any financial or other interest or affiliation, that bears on this project
 7. Changes to personnel working on this project must be reported to the Human Research Ethics Office
 8. Data and primary materials must be retained and stored in accordance with the [Western Australian University Sector Disposal Authority \(WAUSDA\)](#) and the [Curtin University Research Data and Primary Materials policy](#)
 9. Where practicable, results of the research should be made available to the research participants in a timely and clear manner
 10. Unless prohibited by contractual obligations, results of the research should be disseminated in a manner that will allow public scrutiny; the Human Research Ethics Office must be informed of any constraints on publication
 11. Ethics approval is dependent upon ongoing compliance of the research with the [Australian Code for the Responsible Conduct of Research](#), the [National Statement on Ethical Conduct in Human Research](#), applicable legal requirements, and with Curtin University policies, procedures and governance requirements
 12. The Human Research Ethics Office may conduct audits on a portion of approved projects.

Special Conditions of Approval

This letter constitutes ethical approval only. This project may not proceed until you have met all of the Curtin University research governance requirements.

Should you have any queries regarding consideration of your project, please contact the Ethics Support Officer for your faculty or the Ethics Office at hrec@curtin.edu.au or on 9266 2784.

Yours sincerely



Dr Catherine Gangell
Manager, Research Integrity

Appendix H: Introduction Video for Elite Brands (Bottega Veneta, Ice Breaker, and Alain Ducasse au Plaza Athénée)

1. Study One: Bottega Veneta

Hand of the Artisan bags – Bottega Veneta (Bottega Veneta, 2016)

The video was 2:19 minutes long and was shorten to be 35 secs long. This effort was done to maintain consumer’s attention throughout the video duration and avoid fatigue.

(Link to video: <https://www.youtube.com/watch?v=81dP-o-X6Xc>)



HAND OF THE ARTISAN BAGS - BOTTEGA VENETA

2. Study Two: Icebreaker

Underwear: Natural Luxury in our new Fall Winter 16 Collection (Icebreaker, 2016)

Link to video: <https://www.youtube.com/watch?v=1-DVX6jE2Yk>)



Underwear: Natural Luxury in our new Fall Winter 16 Collection

3. Study Three: Alain Ducasse au Plaza Athénée

Alain Ducasse au Plaza Athénée - Découvrez la cuisine de la Naturalité (Alain Ducasse, 2014)

The video was 15:16 minutes long and was shorten to be 35 secs long. Since the audio was spoken in French, English subtitle was included on the video to ensure consumers' understanding and comprehensiveness.

(Link to video: <https://www.youtube.com/watch?v=m-Ca8JnYW4A>)



Alain Ducasse au Plaza Athénée - Découvrez la cuisine de la Naturalité