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Essays on Sales Promotion and Consumer Decision Making Process

Author: Sitong Jiang

Material Abstract

Sales promotion is a common tool used by retailers. However, even though it is commonly used in marketplace, sometimes it cannot achieve the results as retailers expect. Thus, the specific process of consumer decision making and factors that influence the effect of promotions on consumer behavior need further research. This thesis is composed of a literature review of sales promotions, consumers response to a specific sales promotion (Minimum Purchase Requirement deal), and consumers' decision-making process when using different symbols to shop. The first chapter presents an integrative review to summarize past empirical or theoretical literature to provide a comprehensive understanding of consumers' and marketers' response towards monetary and non-monetary sales promotion. The second chapter examines how the consumer's regulatory focus influences their shopping behavior when they choose to use Minimum Purchase Requirement deals. The third chapter focuses on the interaction effect between symbol usage and personality traits on consumer's consideration set in online shopping. The relationship among the three chapters is that the first chapter reviews the existing research about sales promotion, and the second chapter focuses on a specific type of sales promotion and examines the effect of consumers' goal pursuit strategy (regulatory focus) on purchasing behavior when using the deal. Even though the third chapter focuses on external triggered decision-making cues (symbol usage), psychological factors (personality traits) and decision-making process (consideration set) in shopping rather than sales promotions, it follows the same thread of research in consumer decision making process and factors influencing consumer behavior. The thesis aims to contribute to the literature of sales promotion, regulatory focus, priming effect of symbol usage and consumer decision making and behavior. The findings have important implications for marketing practitioners and retailers.

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Essays on Sales
Promotion and Consumer
Decision Making Process

Author: Sitong (Amanda) Jiang

A Thesis presented for the degree of

Ph.D. In Marketing



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Durham University

United Kingdom

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Chapter 1: The Review of Consumers and Marketers Response to Sales Promotion

1.1.Introduction

Sales promotion is an important tool in today's business world – companies spend a large proportion of budget on it every year (Alvarez & Casielles, 2005). Sales promotions (e.g., coupons, sweepstakes) accounted for almost a quarter of the marketing budgets of consumer product companies, and expenditures have been increasing at almost twice the rate of advertising (Honea & Dahl, 2005). According to Progressive Grocer (2015), discounts and promotions contribute to more than 25% of revenue for typical consumer goods. Industry and academia believe sales promotions to be a powerful tool to boost revenue and increase store traffic, but a comprehensive understanding of the effect of sales promotion remains needed. Specifically, our research question is: How to categorize all types of sales promotions? What are consumers' and marketers' perceptions and motivations for sales promotions? What are the boundary factors for the effectiveness of sales promotions?

In this research, we explore the current literature for the definition of sales promotion, categorization of sales promotion, positive and negative effects of sales promotion, consumers' and marketers' motivations of using sales promotion, the boundary factors that influence the effectiveness of sales promotion, as well as the gaps for future research in this field. We intend to do an integrative review of deals and promotions in the marketing field. This literature review aims to contribute to a

comprehensive understanding of the effect of sales promotions for both consumers and businesses, by categorizing the sales promotions, understanding consumer and marketer's perceptions and motivations for sales promotion, and the boundary factors for sales promotion. First, the definition of sales promotion will be introduced.

1.2.Methodology: The Scope And Analytical Approach

We conduct an integrative review for the sales promotion literature. The integrative review is the methodology that provides synthesis of knowledge and applicability of results of significant studies to practice (Cronin & George, 2020; Souza, Silva, & Carvalho, 2010). This research has used two techniques to identify relevant references: a search of the electronic databases and a manual search of peer-reviewed journals (Sousa et al., 2021). First, international journals are retrieved from online databases such as Ebshost, Emerald, Jstor, Proquest, ScienceDirect, Web of Science and Google Scholar using keywords derived from various aspects of sales promotion, consumers and marketers in the past research, such as 'sales promotion', 'deal', 'discount', 'promotion', 'price cut', 'saving', 'reduction', 'consumer behavior and perception', 'consumer preference', 'marketer' and 'retailer'. Specifically, we included articles that fulfil the following criteria: (1) sales promotion should be the primary objective or a significant part of the study; (2) sales promotions are at the consumer's or at the marketer's level; (3) the sales promotion study should include consumers' perception

or purchasing behaviors; and (4) we excluded the studies that were not published in a language other than English.

To ensure that our research is comprehensive, we checked journals that are widely acknowledged within international marketing and international consumer and psychology research as well as economic research. Next, we used snowball sampling and manually searched the reference lists and citations of the studies found in the previous step. We also included books and book chapters which play an important role in advancing sales promotion theory. In total, we identified 214 studies. Our review suggests that these studies were published in 66 different academic journals. This research lists the top ten journals (Table 1 in Appendix).

1.3.Overview Of The Sales Promotion Studies Reviewed

1.3.1. Characteristics Of Studies Reviewed

We analysed the content of each article and summarized the state of the field in sales promotion literature – most of the papers are empirical studies. Table 2 (in Appendix) lists the sales promotion studies, which are quantitative research.

1.3.2. Theories

A ranked list of the most commonly used theories is shown in Table 3 (in Appendix), together with the studies that used those theories. Totally, we summarized 67 theories from the sales promotion studies. The prospect theory and acquisition-transaction

utility theories are the most widely applied model, with almost the twice as many appearances (43, 37) as the third most commonly used theory, attribution theory (17 appearances). This theory is closely followed by the theory of reasoned action (15 appearances), price discrimination theory and mental accounting theory (14 appearances each), adaptation-level theory and economic theory (11 appearances each), and price perceptions theory (10 appearances). We only reported the top 10 theories used, and the detailed information of the rest theories is in Table 3 in Appendix.

1.3.3. Definition Of Sales Promotion

While a variety of definitions of the term ‘sales promotion’ has been suggested, this research will use the definition suggested by Blattberg and Neslin (1990). Sales promotion is defined as “an action-focused marketing event whose purpose is to have a direct impact on the behaviour of customers” (Blattberg & Neslin, 1990, pp. 3). In this research, sales promotion is a temporary offer of an incentive to induce a desired sales result and “call-to-action”, rather than permanent price reduction (Blattberg & Briesch, 2012, pp. 2; Gilbert & Jackaria, 2002). The prior research of sales promotion focuses primarily on the findings of one or two specific types of promotions.

1.3.4. Sales Promotion Versus General Promotion

Sales promotion and general promotion are different marketing strategies that play different roles in market place (Gherasim, 2012). General promotion is the activity

that aims to communicate and improve the relationship between the product's brand, services and consumers (Blattberg & Neslin, 1990). Conversely, sales promotion is a diverse collection of incentive tool, mostly short-term, designed to stimulate quicker and greater purchase of particular products/services by consumers (Kotler, 1991). In other words, sales promotion has emphasized on the short term, stronger stimuli and the motivational strategy for the purchasing behavior and to also encourage consumers to switch from competing brands (Quelch, 1989; Shimp, 2003; Zeithaml, 1988). Furthermore, sales promotion is also different from bargaining because bargaining is about how people negotiate and the final terms of trade that arise are central challenges, but sales promotion normally would not let customers discuss the price during the shopping process (Schellenberg & Druckman, 1986).

1.3.5. Types Of Sales Promotions

There are three ways to categorize sales promotions. The first way to categorize sales promotions is based on the timing of the reward, i.e., immediate versus delayed promotions (Kim, 2013). Immediate promotions (e.g., instant rebates, coupons) provide consumers with instant savings at the time of purchasing and require almost no effort from consumers. In contrast, delayed promotions (e.g., mail-in rebates, cash rewards) offer future rewards (e.g., savings, exclusive deals) to consumers after they purchase a promoted product, contingent on their completing requirements of delayed promotions. Both types of promotion are ubiquitous. For example, 332 billion coupons (immediate

promotions) were distributed in consumer-packaged goods markets in the United States in 2010 (Santella, Steinberg, & Aguirra, 2011), and consumers redeemed approximately \$480 million worth of rebates (delayed promotions) in 2004 (Kim, 2013).

The second way, also the most popular way, is to categorize sales promotions by monetary versus nonmonetary sales promotion (Sinha & Verma, 2017; Wong & Yazdanifard, 2015). Diamond and Campbell (1989) presented a rationale for the difference in the framing of monetary and nonmonetary sales promotions. Monetary promotions, such as price promotions, are most likely to be framed as reduced losses, and will be integrated with the purchase price and can affect reference price (Diamond & Campbell, 1989). Nonmonetary promotions are likely to be framed as gains segregated from the purchase price and will not affect reference price (Diamond & Campbell, 1989). Similarly, in the consumer review of sales promotions in the UK supermarkets, Gilbert and Jackaria (2002) categorized sales promotions as “value increasing” promotions (i.e., coupons and price deals) which are similar to monetary promotions, and “value adding” (i.e., premiums, prizes/contests/sweepstakes, samples, point of purchase display, demonstration and loyalty cards) which are similar to non-monetary promotions. In the same vein, Diamond and Johnson (1990) categorized sales promotions based on price (similar to monetary promotions), product (similar to non-monetary promotions) and effort – price refers to the monetary value; product refers to the type of items given to consumers; and effort refers to the time and actual effort to utilize the promotional offer. Considering 16 types of generic sales promotions,

Diamond and Johnson (1990) categorized sales promotions into three clusters: Cluster A Other products, which is to give customers a different type of product as a premium for free, e.g., free gift, in-pack coupon of other product; Cluster B Extra Same Product, which is to provide extra amount of the same item, e.g. Buy One Get One Free (BOGO), bonus pack; Cluster C Price Discount, which is to reduce the current purchase price, e.g., cents-off, percent off, tear-off coupon (Diamond & Johnson, 1990). Cluster A and B are non-monetary promotions while Cluster C is monetary-promotion.

The last way to categorize sales promotion is active versus passive deals (Schneider & Currim, 1991). This dimension is about the time and effort required to utilize the sales promotions. The active deals require consumers to make efforts to redeem the benefit by setting some conditions, whereas the passive deals do not require consumers' efforts and without any conditions. For example, "3 for 2" deal is an active deal because it requires consumers to buy at least three items in order to get one item for free. On the other hand, "33% off" is equivalent to "3 for 2" on the deal benefit depth, but "33% off" universally benefits consumers without any condition or threshold. Active deals and passive deals are different because this dimension distinguishes between quick, low-effort promotion such as cents off or percent off, and slow, high-effort promotion such as multi-buy promotions (e.g., "5 for 4") and minimum purchase requirement deals (e.g., "\$10 off when spending \$100"). This categorization standard is similar to the dimension of 'effort' by Diamond and Johnson (1990) in the last paragraph.

To summarize, there are mainly three dimensions to categorize sales promotions. The first dimension is monetary, which is a direct way to incentivize customers by providing price cut through price discount, coupons, or rebates etc. Within the monetary sales promotions, the timing that consumers receive the deal benefit could be different – some are immediate benefits such as instant rebates and coupons, while the others are delayed benefits such as mail-in rebates and cash rewards. The second dimension is item-oriented, which focuses on providing extra volume products to consumers, in the form of prizes, free premium products, free gifts etc. The third dimension is effort-oriented, which requires either active effort (e.g., coupons would require consumers to actively search for them in newspapers or magazines; consumers actively collect loyalty card points to redeem benefits) or passive effort (e.g., consumers can passively use store-displayed discounts without making much effort).

In real-life business situations, sales promotion can take a variety of forms that use either single or multiple dimensions mentioned before. For example, ‘save \$20 on orders over \$100’ is a combination of both monetary dimension and effort-oriented dimension because it requires consumer’s efforts to reach a certain condition (spend over \$100) before redeeming the deal benefit (save \$20). Moreover, many studies compare the effectiveness of monetary versus non-monetary sales promotion. For example, many research investigates consumer’s preference towards price discount (monetary promotion) and bonus pack (item-oriented promotion) (Campbell & Diamond, 1990; Carlson, 2018; Chen et al., 2012; Diamond & Campbell, 1989;

Hardesty & Bearden, 2003; Mishra & Mishra, 2011), but less attention has been focused specifically on the effectiveness of effort-oriented sales promotions (Green, 1995; Waani & Tumbuan, 2015).

1.3.6. Demographic and Psychological Variables of Consumers

Why do consumers respond to sales promotions? Behavioral research explains the question by focusing on consumer's characteristics (Bawa & Shoemaker, 1987; Blattberg et al., 1978; Narasimhan, 1984). Some people want to be smart shoppers and get social benefits by always telling others about promotions (Laroche, Kim, & Matsui, 2003; Shimp & Kavas, 1984).

Some consumers are deal prone. Past research has investigated the psychographic and demographic variables of deal prone customers. Lichtenstein, Netemeyer, and Burton (1995) supported that deal proneness is a domain-specific construct (e.g., coupon proneness, sale proneness, rebate proneness). Blattberg et al. (1978) explained deal proneness from the perspective of cost - transaction cost, storage cost, stockout cost, actual price of the item and usage rate, and demographic variables (car ownership, which relates to transaction cost; home ownership, which relates to holding cost; the housewife's employment status and household with or without children under six, which relates to transaction cost; income, which relates to opportunity cost of time, search and transaction cost) to identify deal proneness. Lichtenstein, Burton, and Netemeyer (1997) used data from 582 surveys and receipts from general shoppers and

found that deal prone segments are strongly related to the market behavior data. While the eight deal-types proneness were all positively correlated, some deal types (e.g., contests/sweepstakes) appeared to be perceived as more atypical than others, for example, consumers have higher levels of proneness for some deal types (e.g., buy one get one free) than others (contests/sweepstakes) (Lichtenstein et al., 1997). Past research focuses on the individual variables but has not examined the nature of specific consumer benefits of sales promotions. The next part will discuss consumer benefits of sales promotions, which would help further understand consumer's motivation of using deals.

1.3.6.1. Consumer Benefits Perspective

The most popular framework to understand consumer benefits from sales promotions is **benefit congruency framework** by Chandon, Wansink, and Laurent (2000), which indicates that consumers can gain hedonic and utilitarian benefits from sales promotions beyond monetary savings. Hedonic benefits include value expression (to enhance consumer's self-perception of being smart or good shoppers and provide an opportunity to reaffirm their personal values), entertainment (fun to see or use a sales promotion), and exploration (stimulation and helping fulfil consumer's need for information and exploration in an every-changing shopping environment) (Chandon et al., 2000). In addition to simple monetary savings, utilitarian benefits also include product quality (to upgrade to higher-quality products by reducing the price of

otherwise unaffordable products) and shopping convenience (to reduce consumer search and decision costs and therefore improve shopping convenience) (Chandon et al., 2000). The benefits can be achieved beyond monetary savings.

Moreover, the congruency between these consumer benefits and the type of product also influences the effectiveness of sales promotion, such that monetary promotions are more effective for utilitarian products than for hedonic products, while nonmonetary promotions are relatively more effective for hedonic products than for utilitarian products (Chandon et al., 2000). In the same stream of theory, Martínez and Montaner (2006) suggested functional versus hedonic benefits, such that among those functional benefits researchers should highlight savings and quality while hedonic benefits are tied to intangible attributes which are experiential and affective (Ailawadi, Neslin, & Gedenk, 2001; Chandon et al., 2000). While promotions provide a feeling of saving and reduce the pain of paying, some outstanding hedonic benefits of promotional actions are entertainment (e.g., for those consumers who enjoy shopping, some promotions are amusing, and shopping is enjoyable), exploration (characteristics such as innovation, variety seeking and impulsiveness) and expression (an emotional benefit obtained by some consumers when they express their “self” in front of others, such as market mavens).

1.3.6.2. Self-Control Perspective

Another stream of research focuses on the **self-control** function of sales promotions, which can reduce guilt from purchasing vice or indulgent products (Winterich & Barone, 2011). Consumers prefer price discount because a price discount on a vice food can be justified because it acts as a guilt-mitigating mechanism (Mishra & Mishra, 2011). Similarly, Winterich and Barone (2011) demonstrated that the warm glow of promotional donation affords a means of affectively accommodating the guilt associated with indulgent products. The “warm glow” that characterizes the moral satisfaction because of charitable giving can provide an affective balance to the guilt induced by indulgent products. In addition, sales promotion can also help to avoid future regret. Moreover, Tsiros and Hardesty (2010) built on the literature on both pricing and regret and developed ‘steadily decreasing discounting’ (SDD) tactic, which requires that the seller offers one or more additional discounts that are less than the prior discount before returning to the product’s original price. They demonstrated that future price expectations and anticipated inaction regret influence the purchasing likelihood, such that consumers anticipated future regret of not getting a better deal (because of the increasingly smaller discount) increased the purchasing likelihood (Tsiros & Hardesty, 2010).

1.3.6.3. Characteristics Of Sales Promotion And Consumers

The characteristics of sales promotion, loyalty to the brand, variety-seeking tendency, and **'feeling right' experience** also matter. Firstly, loyalty and coupon characteristics, such as the size of the coupon offer, how easily the consumer can redeem the offer, how brand loyal the consumer is, and whether or not the consumer is deal prone, influence whether or not a consumer will continue to purchase a formerly discounted brand (Chakraborty & Cole, 1991).

Secondly, past research also highlights the factor of brand loyalty. People normally assume that the depth of discount would matter, but it does not explain all variation of the sales revenue – people's concern about brand loyalty could be an indicator for the quality of products. Price discount, especially heavy discount, could look suspicious and indicate low product quality, but brand loyalty is a sign of trust and works as an endorsement (Chen, Monroe & Lou, 1998). Savings and hedonic benefits are not the only motivator of using a deal – the feeling of trust and security further motivates the usage of sales promotion.

Thirdly, sales promotions for hedonic consumption illustrate that consumers' response to sales promotions in leisure settings is a function of consumers' variety-seeking tendencies, loyalty to the service provider, and perceptions of the value of the service provision (Wakefield & Barnes, 1996).

Lastly, the ‘feeling right’ experience refers to the consistency between consumer’s regulatory focus and the corresponding marketing cues. Savings and hedonic benefits are not the only motivator of using a deal – the feeling of trust and security further motivates the usage of sales promotion. Ramanathan and Dhar (2010) found that the framing of the savings message on sales promotions (e.g., “Save \$x” versus “Get \$x Off”), the expiration date restriction cue (immediate versus future expiration), and the familiarity of brands (well-known versus less familiar) are independent primes of regulatory focus. Furthermore, those marketing cues, when compatible with one another or with a prior regulatory focus, lead to more purchases in the store (Ramanathan & Dhar, 2010).

1.3.7. Marketer’s Perception Of Sales Promotion

Why marketers (businesses and retailers) use sales promotions? As an incentive for consumers, sales promotions can increase sales revenue, bring traffic to store, accelerate purchase timing, switch customers from other brands or stores, and generate a positive store/brand image (Allender & Richards, 2012; Aydinli, Bertini, & Lambrecht, 2014; Blattberg & Neslin, 1990; Breugelmans & Campo, 2016; Santini, Vieira, Sampaio, & Perin, 2016; Van Heerde, Gupta, & Wittink, 2003; Walters & Mackenzie, 1988). As can be seen, retail promotions and sales events are designed to increase store traffic and sales, and ultimately, store profit. However, most of the past research highlights the negative effects of sales promotions, such as backfire, making

brand look cheap, and low product quality indication (Aydinli et al., 2014; Breugelmans & Campo, 2016; Garretson & Burton, 2003; Gedenk & Neslin, 1999; Heilman, Nakamoto, & Rao, 2002; Kalwani et al., 1990; Madan & Suri, 2001; Park & Yi, 2019; Raghurir, 2004). How can marketers (businesses and retailers) avoid the negative effects? Why do marketers still use sales promotions despite the negative effects? The reason could be the different effect of sales in short term versus long term.

1.3.7.1. Short-Term Versus Long-Term Effect

Another perspective to look at the effectiveness of sales promotion is short- and long-term effect on sales and perceived value. In the short term, sales promotion can accelerate purchase amount – a meta-analysis of sales promotion on consumer behavior based on 221 studies by Santini et al. (2016) found that the short-term effect of sales promotions on consumer behavior is positive and significant in increasing sales volume and purchase intentions. However, most of the sales acceleration comes from switching from the products of other brands in the same category – the increase in sales due to promotions mostly come from brand switching (84%), purchase acceleration in time (14%), and increases in quantity/stockpiling (2%) (Gupta, 1988). Moreover, based on household scanner-panel data, approximately 74% of sales promotion elasticity, on average, is attributed to secondary demand effects (brand switching) and the remainder is attributed to primary demand effects (timing acceleration and quantity increases) (Van Heerde et al., 2003). The substitution effect of sales promotion is stronger than

the complementary effect (Walters, 1988), which means that the purchase acceleration is more likely from brand switching rather than extra purchases due to sales promotions.

Although managers often hope to obtain long-term benefits with temporary marketing actions, in the long term, the acceleration effect is not significant. Extant research has provided empirical evidence that the permanent effects on sales from temporary sales promotions are rare (Franses, Srinivasan, & Boswijk, 2001; Nijs et al., 2000; Pauwels, Hanssens, & Siddarth, 2002). The long-term effectiveness of promotions is related to brand equity and new product introductions (Slotegraaf & Pauwels, 2008). Moreover, a mega-analysis by Santini et al. (2016) showed that the long-term effect of deals has a positive connection with brand loyalty. Then, Anderson and Simester (2004) used secondary data on durable goods to reveal that the depth of a price promotion can affect repeat-purchase probabilities even up to two years later. Deeper price discounts in the current period increases future purchases by first-time customers (a positive long-run effect) but reduced purchases by established customers (a negative long-run effect) (Anderson & Simester, 2004).

As can be seen, sales promotion can either elicit a positive or negative effect. The sales increase in short term due to promotion mostly comes from brand switching from unpromoted brands to the promoted brands, and also for stockpiling and brands upgrading purposes. In the long term, sales promotion can establish brand loyalty (Santini et al., 2016), especially for new customers, but may jeopardize repurchase intention for existing consumers (DeVecchio, Henard & Freling, 2006). For the long-

term revenue, sales promotions do not help as much as the brand equity and new product introductions. Past research proves that sales promotions have a stronger temporal effect rather than permanent effect on purchase acceleration and used scanner data for modelling and simulation. However, the short- and long-term effects of different types of sales promotions are rather limited in the past research, and the past research did not distinguish the effect of each type of promotions on short- and long-term effects, which could be investigated in the future research. The next part will discuss the boundary conditions that moderate the effectiveness of sales promotion.

1.3.8. Boundary Conditions For The Effectiveness Of Sales Promotion

The factors that moderate the effectiveness of sales promotion are from consumer's perspective, sales promotion's perspective, and retailer's perspective.

1.3.8.1. Consumer's Perspective

Factors from consumer's perspective include shopping goal concreteness, shopping trip type, consumer temporal orientation, consumer's deal proneness level, and light versus heavy users. Firstly, within the shopping trip, Lee and Ariely (2006) proposed a two-stage shopping goal model and found that consumers start with fuzzy shopping goals, which become more concrete (how much to spend, what to buy) as the shopping experience progresses. Because of the initial lack of concreteness of goals, their sensitivity to external cues is likely to be higher in the earlier stage when their goals are more malleable (Lee & Ariely, 2006). However, although shopping goals are

potentially liable in the initial stage, they can also be rather resistant to change in the later stage even in the presence of attractive promotions. Recent research has suggested that consumers have in-store slack for grocery trips - that is, they leave room in their mental budgets to make unplanned purchases (Stilley, Inman, & Wakefield, 2010). In addition, Stilley et al. (2010) found that the nature of the increase in expenditure associated with savings depends on whether the consumer still has remaining in-store slack. Moreover, promotions on unplanned grocery items generate incremental spending at the shopping cart level but only when the item is purchased after the in-store slack is exceeded (Stilley et al., 2010).

In terms of shopping trip *per se*, Walters and Jamil (2003) examined how major shopping trips, fill-in shopping trips, and shopping primarily for price specials are associated with consumer's price specials search, purchases of price specials, coupon redemption, and retailer shopping cart profitability. The results show consumers visiting the store primarily to purchase price specials were more likely to read flyers and purchase more advertised price specials than consumers on other types of shopping trips. Major and fill-in shoppers were equally responsive to the retailer's promotions. The results also indicate that retailer profitability was lowest for price specials shoppers and highest for fill-in shoppers (Walters & Jamil, 2003). Surprisingly, consumers on all types of shopping trips purchased equal number of in-store specials and redeemed equal number of manufacturer coupons relative to the size of their basket. Hence, measuring the type of shopping trip was successful in predicting who reads flyers and purchases

features but unsuccessful in predicting which segments of shoppers buy more in-store price specials and redeem more coupons. Furthermore, specials shoppers were the least profitable consumers entering the store and fill-in shoppers were the most profitable, with major shoppers in between. Still, specials shoppers offered the retailer a profitable basket of goods with the willingness to purchase regular-priced items along with the low-margin features that brought them to the store (Walters & Jamil, 2003). Even though retailers use unified sales promotions to attract customers, the different types of shopping trip and the different stages within the same shopping trip can significantly influence the purchase amount. Past research mainly uses mental budget theory to explain the effect and focused on spending, but future research could investigate shopping frequency, level of loyalty and long-term effect of the shopping trips as well. Moreover, how can retailers use a comprehensive strategy to establish a good image and positive reputation beyond sales increase? The future research could focus on the effect on store/brand equity as well.

Secondly, as for consumer temporal orientation, there is a positive effect of a discount depends on consumer temporal orientation, which includes present-oriented versus future-oriented (Mukherjee, Jha & Smith, 2017). Results from three experimental studies revealed that a large discount positively affects present-oriented consumers, but not future-oriented consumers (Mukherjee et al., 2017). The findings suggested that a retailer can use quality cues along with a discount, especially for a new

brand, to appeal to the broadest group, as it will attract both future- and present-oriented consumers (Mukherjee et al., 2017).

Thirdly, as for consumer's deal-proneness level, Crespo-Almendros and Del Barrio-García (2016a) analysed whether promotion-proneness exercises a moderating effect on this relationship. Discounts generate a more positive brand image than free gifts among promotion-prone users, while for less promotion-prone individuals, the opposite is true (Crespo-Almendros & Del Barrio-García, 2016a).

Lastly, in terms of light versus heavy user effect, Ong, Ho, and Tripp (1997) proposed that regular buyers (heavy users) indicated greater perceived value and purchase intentions regarding the bonus pack offer than infrequent buyers (light users). Regular buyers (heavy users) who were exposed to a bonus pack offer indicated a lower preference for a price discount than infrequent buyers (light users). Regular buyers (heavy users) exhibited less aforesaid skepticism regarding a bonus pack promotion than infrequent buyers (light users). To date, there is no systematic study that considers the full profile of consumers but only a few aspects separately. How can retailers or brands use the information from past research to form a systematic strategy for their target customer or target market? Future research could follow this direction.

1.3.8.2. Sales Promotion's Perspective

Factors from the sales promotion's perspective include the framing of sales promotion and depth of promotion. Firstly, the framing of sales promotion is a popular

topic in marketing literature. McKechnie et al. (2012) showed different discount presentation formats (in percentage and absolute terms) had different effects on consumers (e.g., 20% off versus \$5 off). For low-price products, consumers preferred percentage to absolute value for high discount size; while for high-price products, consumers preferred absolute value to percentage for high discount size. The assessments of transaction value were higher when a percentage figure was used to communicate a discount saving than an absolute monetary saving in the case of low-priced products, whereas the opposite was true for the high-price products (McKechnie et al., 2012). As promotions became larger, shoppers preferred promotions of the form "free extra ounces" (free premium) less than other types, and free premium became increasingly favored (Diamond, 1992). Moreover, different framing of free promotion '\$0 vs Free' found that "Get it for \$0" was more preferred than "Get it free" (Koo & Suk, 2020). Palmeira and Srivastava (2013) demonstrated that consumers' willingness to pay for the product after the promotion is retracted was higher when it was offered for free than low, discounted price. The underlying reasoning is that the price of the promoted product was used as a natural anchor for value estimation.

However, when the product was offered for free (i.e., zero price), consumers were less likely to consider the value of the product and were influenced by anchors such as the price of the focal purchase. Sinha and Smith (2000) focused on three different price framings: the first is stated in terms of a straight price promotion ("50% off"); the second is an extra-product or volume promotion ("buy one, get one free"); and the third

is a “mixed” promotion (“buy two, get 50% off”). The nature of framing appears to differentially affect consumer perceptions of value from “equivalent” deals (Sinha & Smith, 2000).

Moreover, perceptions of deal value from price versus extra-product promotions are moderated by the stock-up characteristic of the category. However, consumers' internal reference prices remain unaffected across one-time price and extra-product promotions. Low and Lichtenstein (1993) studied two types of consumer sales promotions, advertised reference price and free premium with purchase and suggested that the effect of a free premium on consumer attitudes depended on the level of the advertised reference price. Counter to expectations, at a low level of advertised reference price, consumers' brand image and perceived quality are more favorable when the value of the free premium is low rather than high (Low & Lichtenstein, 1993). At a high level of advertised reference price, consumers' brand image and perceived quality are less favorable when the value of the free premium is low rather than high. At a medium level of advertised reference price, consumers' product attitudes are similar across free premium values (Low & Lichtenstein, 1993).

Furthermore, the effects of promotion type (i.e., price discounts and bonus packs) and price presentation (i.e., dollars and percentages) across promotional benefit levels were investigated in three experimental studies (Hardesty & Bearden, 2003). The results suggest that price discounts and bonus packs were valued similarly for both low and moderate promotional benefit levels, while price discounts were preferred when

high promotional benefit levels were employed (Hardesty & Bearden, 2003). Additionally, promotions presented in percentage terms were preferred when the benefit level was high (Hardesty & Bearden, 2003). The implications of these results for retailers and manufacturers are that percentage price presentations should be used when large discounts are offered. Furthermore, it appears that bonus pack is a viable alternative to price discount when promotion levels are small or moderate since they have less of a deleterious effect on the brand.

Secondly, in terms of depth of promotion, Delvecchio (2005) demonstrated that the effect of deal proneness on choice of a promoted brand depended on both the relative and absolute value of a promotion. The responses of more and less deal-prone customers to a promotion of low absolute value were consistent across both product categories tested. Specifically, when the dollar value of a promotion was low, choice by lowly deal-prone consumers was more sensitive to the relative value of a promotion than by highly deal-prone consumers. This relationship was reversed when the absolute value of a promotion was high (i.e., when the base product price was high) (Delvecchio, 2005). Thus, deal-prone consumers appear to desire the best deal only when they believed there was a good deal (in absolute terms). Gupta and Cooper (1992) showed that consumers discounted the price discounts - the discounting of discounts and changes in purchase intention depended on the discount level. Specifically, stores can attract consumers by offering a small discount on big-name brands while a larger discount is needed for a similar effect for a store brand (Gupta & Cooper, 1992). These

results confirm consumers' S-shaped response to promotions. Alba et al. (1999) demonstrated that discounting can take the form of frequent but shallow discounts or deep but infrequent discounts. When brand prices vacillated between a constant regular price and single sale price, the opposite was often true; deep, infrequent discounts led to lower perceived prices than shallow, infrequent discounts (Alba et al., 1999). Palazón and Delgado (2009) investigated the interaction effect between promotional benefit level and promotion type across three levels of benefit (low, moderate, high). The results suggested that at high benefit levels, price discounts were more effective than premiums, while the opposite occurred at low levels (Palazón & Delgado, 2009).

Lastly, past research has been limited to the format or framing of free premium, free gift, and price reduction, or number versus text, and tested consumer's willingness to pay or preference. Past research controls the variables to make the depth of discount to be same, but the findings of the effect of promotion format is not consistent. What is known is that how the depth of discount influences preference for framings is S-shaped. However, there is no clear standard for the exact level of effect of the depth of discount on purchase preference or expenditure. Future research should further investigate the effect of price discount depth on consumer's preference and expenditure.

1.3.8.3. Retailer's Perspective

Factors from the retailer's perspective include retailer/brand reputation. The reputation of the retailer offering the deal is predicted to moderate the relationship

between the promotional offer and consumer responses (Pacheco & Rahman, 2015). When a deep price discount was offered by a retailer with a negative reputation, consumers had more favorable attitudes toward the deal and higher purchase intentions when provided with a markdown versus coupon. Conversely, a high value coupon elicited more favorable evaluations than a markdown when the retailer had a positive reputation (Pacheco & Rahman, 2015). These findings are consistent with the findings of brand loyalty in consumer motivation to use deals.

To conclude, consumer's shopping trip, users' habit/characteristics such as deal proneness level and product usage rate, framing of sales promotion, depth of discount, retailer and brand reputation all influence the effectiveness of sales promotions. For practitioners, more systematic research is needed to help marketers to develop a comprehensive sales promotion strategy that considers the characteristics of target consumers, their track of shopping to infer their shopping goal stage, and their shopping trip type. Moreover, a model of optimal discount depth for different framings of sales promotions is also needed.

1.4. Theoretical Implications

This literature review contributes to a comprehensive understanding of the effect of sales promotions for both consumers and marketers in three ways. Firstly, we extend the understanding of sales promotion by categorizing sales promotions in three ways, i.e., based on the timing of the reward, monetary versus nonmonetary, and active versus

passive deals. This categorization is more comprehensive than Diamon and Johnson (1990) which categorized sales promotions only based on price, product and effort because we further considered the timing, benefit format, and method of redeeming the benefit.

Secondly, we extend the understanding consumer and marketer's perceptions and motivations for sales promotion from consumer's benefit perspective, self-control perspective, and 'feeling right' experience perspective. Previous line of research only focuses on demographic and psychological variables when analysing sales promotions such as deal proneness, car ownership, housewife's employment status etc. (e.g., Bawa & Shoemaker, 1987; Blattberg et al., 1978; Narasimhan, 1984), while we improved the understanding of psychological process which motivates consumers to use sales promotions. Furthermore, from marketers' perspective, we find that short- versus long-term effect of sales promotion is a vital factor for them.

Lastly, we summarized some boundary factors which can influence the effectiveness of sales promotions from consumer, sales promotion setting, and retailer's perspectives. The results help understand the specific situations of when and why some sales promotions work better than other types of sales promotions.

1.5. Future research directions

Many studies have been conducted in the areas of non-monetary and monetary sales promotions. Despite this, some questions remain unsolved, which will require future research. These issues are addressed in the following.

Firstly, the application of non-monetary and monetary sales promotion at various stages of the product lifecycle requires further research. Non-monetary and monetary promotions can be used at the various stages of product lifecycle to increase sales. As a result, it is necessary to investigate the operation of non-monetary and monetary sales promotion in the various stages of product lifecycle to build a plan to sustain and extend product life. Apart from product lifecycle, future research also needs to focus on both sales promotion and advertising and present the combined power of sales promotion and advertising since sales promotion and advertising complement each other, despite the availability of similar studies in this context (Peattie & Peattie, 2012).

Secondly, due to the increasing online shopping behavior, the importance of non-monetary and monetary sales promotion in the context of online marketing needs to be addressed. Online sales promotional methods are required in modern marketing practise, but this topic has received little attention in terms of online non-monetary and monetary promotions. It is also necessary to investigate the aspects that influence internet marketing techniques.

Thirdly, future research may need to pay more attention on the effectiveness of non-monetary and monetary sales promotion at varying levels of market competition. Market competitiveness is an important issue that influences how sales promotion works in marketing strategy. The levels of high, moderate, and low in the depth of deals necessitate a change in a promotional strategy. It is necessary to investigate the efficiency of promotional strategies at various degrees of market competitiveness. As a result, there is future potential to design sales promotion tactics based on various levels of market competition.

Fourthly, research methodology of sales promotion studies is mostly "paper and pencil" survey, which may lead to some mis-recalls and invalid data. For example, Lichtenstein et al. (1995) tested the effect of deal proneness covering 8 types of promotions on the quantity of promoted items purchased, money spent on promoted items, money saved on promoted items, but their findings relied on the self-recalled survey. Future research could use the real consumer purchase record data to and test the effect of deal proneness on repurchase behavior and variety seeking behavior.

Fifthly, Bawa and Shoemaker (1987) developed a model of coupon usage across product classes that explains why households might behave consistently in their coupon usage across product classes. Purchase data were analysed across seven product classes for each household to test the hypothesis that coupon usage is not independent across product classes and to identify the differences in demographic variables and purchasing behavior between coupon-prone and non-coupon-prone households. However, they

only covered coupon usage, not other promotion types. Future research could fill in this gap and test the effect of other types of promotion usage. For example, future research could use utility-maximization model to explain households' deal usage based on their characteristics' information and purchase information. Moreover, future research could also investigate how this consistency of the usage of coupons across product classes can effectively influence the purchase of a specific product. For example, the effect of sales promotion on complement products and substitute products needs further research – if BOGO is used on, for example, bread, then what is the effect on the purchase of butter (bread and butter are complements since they are consumed together)?

Lastly, extensive studies in behavioral research have tried to explain why consumers use a deal from the deal-prone perspective, demographic and psychographic perspectives. However, limited research has investigated what happens after consumers choose to use a deal, i.e., consumer behavior at the post-deal-usage stage. Do they simply use it just for once and never repurchase? Do they use the deal but form a worse impression of marketers? Is there any factor that influences their behavior, for example, their spending, willingness to pay, tendency of recommendation to others, satisfaction level, after they choose to use a deal? Future research can also investigate what factor(s) could influence consumer's purchase amount after they choose to use a deal.

1.6. Relationship Among The Three Chapters

The relationship among the three Chapters is as follows: while Chapter 1 reviews the existing research on sales promotion and identifies the gaps and directions for future research, Chapter 2 focuses on a specific type of sales promotion and examines consumer behavior and decision making towards it. Following the same thread of research in consumer decision making process and factors influencing consumer behavior, Chapter 3 does not investigate sales promotion, but focuses on decision-making stimuli from external factors (use of symbols) and psychological factors of consumers (personality traits) for consideration set in shopping, which is about consumer decision-making process.

Appendix For Chapter 1.

Table 1

Top publication outlets for sales promotion studies.

Journal name	Number of articles	Journal name	Number of articles
Journal of Product & Brand Management	27	Asia Pacific Journal of Marketing and Logistics	10
European Journal of Marketing	17	International Journal of Retail & Distribution Management	10
Journal of Marketing Research	16	Journal of Marketing	10
Journal of Retailing	13	Journal of Consumer Research	8
Journal of Consumer Marketing	11	International Journal of Contemporary Hospitality Management	6

Table 2

List of quantitative studies in sales promotion

Authors	Types of sales promotions	Dependent variable(s)	Context	Country	Method	Sample
Aigner, Wilken and Geisendorf (2019)	Price discount, premiums	Consumer behavior	Milk, noodles, peppers, champagne, chocolate, ice cream	Germany	Survey	487
Ailawadi, Neslin and Gedenk (2001)	In-store, out-of-store promotions	Consumer preference for promotions	Grocery products	Germany	Survey	319
Alba, Mela, Shimp and Urbany (1999)	Discount frequency, discount depth (shallow vs. Deep)	Perception of brand price (price estimates)	Shampoo	US	Laboratory experiments	286

Allender and Richards (2012)	Promotion design (promotion depth, and promotion frequency)	Brand loyalty	Carbonated soft drinks, ice cream	US	Secondary data	10,000 retail outlets (in year 2005)
Anderson and Simester (2004)	Price depth	promotion	Future purchasing of first-time established customers	US	Field experiments	56,466
Andrew, Adam and Phil (1999)	Multibuys, offer, gift offer	price	Consumer preference	UK	Secondary data	8,000 (1994 to 1996)
Arora (2011)	Price bundling	Consumer preference, usage intention and attitudes	Teeth whitener, toothpaste, mouthwash, toothbrush and dental floss	US	Experiment, interviews	476

Aydinli, Bertini, and Lambrecht (2014)	Price discount	Product choice	Candy bar, granola bar, online DVD rental service, milk chocolate truffles	US	Field experiments, online experiments, laboratory experiment	105,565 (November 2012), 609
Bandyopadhyay, Sivakumaran, Patro and Kumar (2021)	Monetary-immediate, non-monetary- immediate, monetary- delayed, non- monetary delayed (nmd)	Impulse buying	Supermarket	India	Survey	291

Banerjee (2009)	Price freebie	discount,	Consumer preference	18 products (marchbox, scrubber, cloth whitener, hair oil, multi plug socket, pen, steel cup, ball, pencil cell, toy car, etc)	India	Experiment	56
Banerjee and Yancey (2010)	Mobile coupon		Redemption rate	Fast food	US	Secondary data	75
Bang, Choi, Yoon, Baek and Kim (2021)	Price discount		Consumer perception	Coca-cola cans	US, Korea	Experiments	563

Bauer, Linzmajer, Nagengast, Rudolph and D'Cruz (2020)	Price discount	Consumer behavior, experience	Retailing	US	Laboratory experiments	1002
Bawa Shoemaker (1987)	Various types (not specified)	Coupon proneness	Ready-to-eat cereal, facial tissue, shampoo, paper towels, cooking oil or shortening, hairspray, and deodorants or antiperspirants	US	Secondary data	2,879 households (in year 1975)
Bharadwaj and Bezborah (2021)	Freebie	Purchase intentions; brand loyalty	Dietary supplement	India	Survey	478

Blattberg, Buesing, Peacock and Sen (1978)	Price promotion	Deal-proneness tendency	Aluminium foil, waxed paper, headache remedies, liquid detergent, and facial tissue	US	Secondary data	1,290 households (1958-1966)
Blom, Lange and Hess (2021)	Monetary and non- monetary promotions	Customer satisfaction	Role-playing shopping scenario	US	Online experiments	1379
Bolton and Shankar (2003)	Five pricing and promotion strategies at brand-store level (exclusive, moderately promotional, hi-lo, edlp, and aggressive pricing)	Retailer's deal intensity, deal support, pricing decisions	Spaghetti sauce, bathroom tissue, liquid bleach, ketchup, mouthwash, frozen waffles	US	Secondary data	1,364 brand- store combinations (in year 1998)

Boschetti, Perin, de Barcellos, Sampaio and Basso (2017)	On-monetary sales promotions with attractive premiums	Consumer purchase intention	Credit card	Brazil	Experiments	386
Breugelmans and Campo (2016)	Price discount	Cross-channel effects	Milk and cereals	UK	Secondary data	9,251 households (July 2006-December 2007)
Buil, de Chernatony and Martínez (2013a)	Monetary and non-monetary promotions	Brand equity creation	Sportswear, consumer electronics, cars	UK	Survey	302
Buil, de Chernatony and Montaner (2013b)	Gift promotion	Consumers' evaluations and purchase intention	Sports shoes, mp3 players	UK	Survey	247

Büttner, Florack and Göritz (2015)	Monetary vs nonmonetary promotion	Consumer's choices	Retail products (e.g. Chocolate, coffee)	store, eight (e.g. detergent,	Austria	Online experiment, laboratory experiments	305
Callow and Lerman (2003)	Price discount	Consumers' attitude	Compact camera		Italy, US	Experiment	262
Campbell and Diamond (1990)	Premiums and free extra product, discounts and rebates	Consumer perceptions	Swordfish camera, beer	entrée,	US	Experiment	64
Campo and Yagüe (2007)	Price promotion	Perceived price, internal reference price	Package tour		Spain	Survey	358
Carlson (2018)	Price discount, bonus pack	Consumer preference	Battery		US	Online experiments	648

Carpenter and Moore (2008)	Non - price retail promotion	Participation likelihood	Retail	US	Secondary data	500 (in year 2005)
Casalo and Romero (2019)	Economic incentives, draws and contests	Customers' voluntary behaviors	Social media	Spain	Survey	491
Cassia, Magno and Ugolini (2015)	Social couponing	Perceived effectiveness	Hotel,groupon	Italy	Survey	108 hotels
Chakraborty and Cole (1991)	Direct coupon delivery	Redemption rate, repeat repurchase	Candy bars	US	Laboratory experiment	122
Chandon, Wansink and Laurent (2000)	Monetary and non-monetary promotions	Sales promotion's effectiveness	Hedonic and utilitarian products	US, France	Experiment	361
Chandran and Morwitz (2006)	Discount, promotion free	Purchase intention	Second-hand book	US	Experiments	316

Chatterjee (2007)	Advertised and next-purchase coupon	Purchase satisfaction, perceived promotion value, and perceived retailer fairness	Usb flash drive, frozen ice cream	US	Laboratory experiments	810
Chatterjee (2011)	Price discount	Perceived deal value	Notebook bag	US	Laboratory experiment	515
Chen and Li (2020)	Online shopping festival promotion	Consumer participation intention	Online shopping	China	Survey	495
Chen, Marmorstein, Tsiros and Rao (2012)	Price discount and bonus pack, format effect (percentage and nominal value)	Consumer preference	Hand lotion, toothpaste, mouthwash, coffee beans	US	Field experiment, survey, laboratory experiment	95 (January 2008-May 2008), 120, 497

Choi and Kim (2008)	“Scratch and save” promotion (uncertainty of savings outcomes)	Consumer's shopping intention	iPod	Canada, Korea	Experiment	155
Chong, Li, Ngai, Ch'ng and Lee (2016)	Free delivery, price discount	Product sales	Amazon.com	China	Secondary data	15,433
Claro, Vieira, Agnihotri, and Serer (2021)	Value- vs experience-related trade promotions	Retail sales	Personal care	Brazil, Russia, India, China, south Africa, US	Secondary data	1,920 (April 2015 - July 2016)
Clayton and Heo (2011)	Limited time discount	Brand association	Digital mp3 player	US	Experiment	105
Coulter and Roggeveen (2012)	Price discount (percentage and absolute terms)	Purchase likelihood	Online group buying website (groupon)	US	Secondary data, experiment	229

Crespo-Almendros and Del Barrio-García (2016b)	Price discount, free gift	Brand image of service firm	Airline	Spain	Laboratory experiment	676
Dallas and Morwitz (2018)	Pseudo-free offer	Consumer's deal acceptance	Mug, chocolate, phone charging service, wi-fi service	US	Experiments	1721
de Oliveira Santini, Sampaio, Perin, Espartel and Ladeira (2015)	Monetary, discount; non-monetary, prize contests	Consumer purchase intentions	Collective buying site, netbook	Brazil	Secondary data, laboratory experiment	Groupon (15 days), 589
Deleersnyder and Koll (2012)	Destination discount	Grocery purchase behavior	115 grocery categories	Germany	Secondary data	20,000+ households (January 2002 - July 2005)

DelVecchio (2005)	Promotion depth and value	Consumers' responses to promotion, choice of a promoted brand	Shampoo, spaghetti sauce	US	Laboratory experiments	322
DelVecchio, Heath and Chauvin (2017)	Multi-unit discounts (3 for \$4)	Consumer purchase behavior	Pantry items, apparel, electronics, human and pet foods, beverages, yogurt	US	Field experiment, laboratory experiment	1,911
DelVecchio, Krishnan and Smith (2007)	Price discount (percentage and absolute terms)	Future price expectation	Shampoo, spaghetti sauce	US	Experiments	674
Deng, Staelin, Wang and Boulding (2018)	False' promotion	Consumer utility	Retail stores	N/A	Modelling	N/A

Diamond (1992)	Price discount and "free extra product" promotion	Consumer preference for promotions	Detergent	US	Survey	60
Diamond and Campbell (1989)	Price discount and bonus pack	Reference price, perceived expensiveness and perceived quality	Laundry detergent	US	Laboratory experiment	103
Diamond and Johnson (1990)	Price discount, bonus pack	Consumer perceptions of framing and categorization	N/a	US	Survey	31 females
Drechsler, Leeflang, Bijmolt and Natter (2017)	Multi-unit promotions	Store-level sales, consumer-level purchase probability and quantity	Tissues, cotton pads, ring binders and cupcakes, shower gel	Netherlands	Secondary data, laboratory experiment	200+ department stores (October 2005 - February 2007), 222

Drozdhenko and Jensen (2005)	Price discount	Consumer's choice	Athletic shoes, tires, shirt, toothpaste, hd tv, cereal, shampoo, a watch	US	Survey	453
Empen, Loy and Weiss (2015)	Price promotions	Consumer's choices	Yoghurt, ready-to-eat breakfast cereal	Germany	Secondary data	16,000 individual households, 108 retailers (2000-2003)
Eun Lee and Stoel (2014)	Price discount	Customers' perception of risks	Laptop, textbook	US	Online experiment	324
Falk Scaglione (2018)	Early bird discount	Effectiveness of promotion	Winter overnight stays, ski	Switzerland	Secondary data	54 winter sport destinations

Fam, Brito, Gadekar, Richard, Jargal and Liu (2019)	Discounts, premiums, refunds, samples, coupons, contest, point of purchase, advertisements	Consumer attitudes towards sp	N/a	Brunei, China, Hong Kong, Indonesia, Malaysia, New Zealand, Singapore And Thailand	Survey	4,125
Feng, Suri, Chao and Koc (2017)	Comparative price promotions (vertical vs. Horizontal)	Willingness to buy	Aura visor, Bluetooth tracker for personal belongings, ski bundle	US	Laboratory experiments, online experiments	627
Fogel and Thornton (2008)	Coupon, rebates, price cut, buy one get one offers	Consumer's intention to use deal, preference for promotion	Grocery store	US	Survey	1048

Fong, Nong, Leung, and Ye (2021)	Non-monetary incentive	Redemption intention	Sandwich	Hong Kong, Macao	Experiments	304
Gamliel and Herstein (2011)	Price deals (positive vs negative framing)	Consumers' purchase intention	Running shoes, perfume, eau - de - toilette	Israel	Experiment	497
Gamliel and Herstein (2012)	Price deals (positive vs negative framing)	Purchase intention, perceived gain, involvement	Cell phone	Israel	Survey	189

Garretson and Burton (2003)	Coupon	<p>Economic variables (1. Price consciousness, 2. Value consciousness, 3. Price-quality perception, 4. Time and money trade-off); shopping-related variables (1. Smart-shopper self-perception, 2. Market mavenism, 3. Market skepticism, 4. Deal involvement, 5. Shopping enjoyment)</p>	Consumer good (not specified) (not US)	Survey	582
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Garretson and Clow (1999)	Coupon	Service quality expectations, risk perceptions, purchase intentions	Dental industry	US	Survey	348
Gautam (2012)	Monetary and nonmonetary promotions, instantaneous and delayed receipt of rewards	Consumer preference	Financial products (credit cards, mutual funds, fixed deposits, bancassurance)	India	Survey	383

Gedenk and Neslin (1999)	Price promotion and sampling promotion	Consumers subsequent purchasing and future brand preference and long-term effects on purchase event feedback	Yogurt and mineral water	US, Germany	Secondary data	1,050 households (1986-1988, 1995)
Gendall, Hoek, Pope and Young (2006)	Price discount (percentage and absolute terms)	Consumers preference	Cola drinks, potato chips, computers, stereos	New Zealand	Experiment	322

Gilbert and Jackaria (2002)	Coupon, discount, "buy one get one free"	price sample,	Consumer buying behavior (includes brand switching, brand loyalty, stockpiling, purchase acceleration (buying earlier than planned) and product trial)	Supermarket	UK	Survey	160
Gorji and Siami (2020)	Sales promotion displaying (banner, billboard, balloon and price tag)		Purchase intention	Department store	Australia	Survey	415

Green (1995)	Coupon and feature ads and in-store display and price discount	Usage rate and redemption rate of coupon, purchases on feature ads, purchases on in-store display, purchases on price discount	Frozen snack products including ice cream, frozen novelty desserts	US	Secondary data	300 households (1989-1990)
Green (1996)	Cents-off coupon	Consumer behavior	N/a	US	Survey	318
Guo, Zhang, Zhang and Ke (2020)	Uncertain reward	Customer engagement	Jd.com	China, USA	Online experiments; laboratory experiment	337

Gupta (1988)	Feature displayed ad, price cut	Component of sales increase (brand switching, purchase acceleration in time, stockpiling)	Regular ground coffee	US	Secondary data	100 households (1980-1982)
Gupta and Cooper (1992)	Advertised discount level, store image, brand (name brand vs. Store brand)	Perceived discount, change in purchase intention	Aerobic shoes	US	Survey	209

Hardesty and Bearden (2003)	Price discounts and bonus packs, price presentation (i. Dollars and percentages)	Consumer preference and promotions	for	Toothpaste, trash bags, detergent, hand lotion	US	Laboratory experiments	357
Heidarzadeh Hanzaee and Esmaeilpour (2017)	Reward program	Consumer loyalty		Restaurant	Iran	Experiment	231
Heilman, Nakamoto and Rao (2002)	In-store coupons “surprise” (e. Electronic coupons, coupons, peel-off coupons)	Unplanned purchases, shopping basket size		Treats, spaghetti sauce, laundry detergent, cereal, paper towels	US	Field experiment	192

Heydari, Heidarpoor and Sabbaghnia (2020)	Buy one get one free (bogo)	Retailer and supply chain optimization	N/a	N/A	Modelling	9 tests
Ho Ha, Suk Hyun and Pae (2006)	Unexpected in - store price discount	Consumer purchase behavior	Electronic organisers, portable audio players	Korea	Experiments	240
Hsu and Liu (1998)	Price promotion	Perceived transaction value	Tv, answering machine	US	Experiment	132
Huang and Yang (2015)	Minimum purchase requirement (minpr)	Willingness to buy	Apparel	Taiwan	Experiments	290
Ieva and Ziliani (2017)	Digital loyalty program	Consumer segments	Grocery shopping	Italy	Survey	1,838
Iranmanesh, Jayaraman, Zailani and Ghadiri (2017)	Volume discount	Intention to purchase	Grocery products	Malaysia	Survey	583

Jaber and Goggins (2013)	Monetary discount	Purchase decision	Petrol	N/A	N/a	N/A
Jang and Mattila (2005)	Loyalty program	Consumer preference	Restaurant	US	Focus group, survey	N/A
Jha, Dutta and Koksai (2019)	Monetary discount	Potency of offer	Tablet pc	India, US	Experiment	365
Kalwani, Yim, Rinne, and Sugita (1990)	Past price promotion	Price expectation	Coffee	US	Secondary data	1,318 households (February-May 1980)
Kamins, Folkes and Fedorikhin (2009)	Bundle with free or not free product	Willingness to pay for the focal product and supplementary product and mixed bundle price	Shampoo, coin	US	Field and laboratory experiments	764

Kang, Tang and Fiore (2015)	Monetary promotion	sales	Brand trust, brand commitment	Restaurant brand page on Facebook	US	Survey	392
Kareem Abdul (2017)	Price reduction		Consumers' post-purchase perceptions	Computer laptop	India	Survey	214
Kaveh, Nazari, van der Rest and Mira (2021)	Price bundling	discount,	Purchase intention	Running shoes	Iran	Survey	489
Khajehzadeh, Oppewal and Tojib (2015)	Mobile coupon		Coupon redemption, shopping motivation	Grocery shopping	US	Online experiments	750
Khare, Ahtani and Khattar (2014)	Rebates, discounts, low prices, coupons, gifts, and loyalty cards		Consumers' attitude	Retailer mall	India	Survey	501

Khare, Sarkar and Patel (2019)	Price discount, loyalty card	Consumer perception	Retailer mall	India	Survey	453
Kim (2013)	Immediate versus delayed promotions	Preferences for promotions	Coffee pods, lip balm, dishwashing liquid, candy bar, detergent	US	Laboratory experiment	465
Kim and Min (2016)	Non-monetary promotion (gift)	Consumer preference	Hotel reservation	Korea	Experiments	365
Kimbrough, Porter and Schneider (2021)	Precise first offer	Consumer's price offer	Textbook	US	Laboratory experiment	160

Kivetz and Simonson (2002)	Frequency rewards program	Consumer preference	Frequent program of car renter/hotel/department store/internet	US	Experiments	3100
Koo and Suk (2020)	"Free" promotion framing ("get product x for free") and "\$0" promotion framing ("get product x for \$0")	Consumer preference promotions	for Lip gloss, tomato pasta sauce, Starbucks free certificate	Korea, US, UK, Canada	Field experiment, online experiments	221,235 (April-May, 2015), 1832

Ku, Wang and Chiang (2020)	Free-with-purchase, bundle offer	Consumer preference	Digital camera, flash card, mobile power pack, camera bag, hotel room booking	Taiwan	Experiments	403
Kuo and Nakhata (2016)	Price discount, price bundling	Consumer purchase intentions	Hotel	US	Experiments	250
Kwiatek and Thanasi-Boçe (2019)	Loyalty program	Sales performance	Office supplies wholesaler company	Poland	Secondary data	818
Kwok and Uncles (2005)	Experiment	Consumer's response		Australia, Hong Kong, China, Indonesia	Survey	280

Lambert and Goh (2021)	"Free" collectable toy premium	Effectiveness of promotion	Food		Australia	Review	N/A
Langga, Kusumawati and Alhabsji (2021)	Contest, lottery, discount and bonus	Customer-based brand equity, repurchase intention and word-of-mouth	Car		Indonesia	Survey	1,782
Laroche, Pons, Zgolli, Cervellon and Kim (2003)	Coupon and "two for one" promotions	Information search, sales promotion benefits evaluation, liking towards coupons, "two for one", purchase intentions, stockpiling intentions.	Consumer good (not specified)	US		Survey	559

Lee (2002)	Coupons, draws	lucky	Brand manager's choice	Supermarket categories)	(26	Singapore	Survey	75
Lee (2017)	Social shopping deals		Growth rate of reviews	Groupon		US	Secondary data	134 merchants (in year 2015)
Lee and Ariely (2006)	Conditional coupon		Shopping goal concreteness, average money spent in the shopping trip	General store shopping (not specified)		US	Laboratory experiments	775
Lee, Jin, Rhee and Yang (2016)	Price decrease		Consumer's online product reviews	Amazon's kindle case	2	N/A	Case study,	6,714
Lehtimäki, Monroe and Somervuori (2019)	Price discount		Attractiveness of discounts	Durable goods	consumer	Finland	Survey	346

Liang, Yang, Chen and Chung (2017)	Discount, member, free giveaway, and limited time offer	Consumers' choices	Organic food	UK	Secondary data, survey	225, 1017
Lichtenstein, Burton and Netemeyer (1997)	Buy-one-get-one-free, sales, coupons, cents-off, free gift, in-store displays, rebates, contest and sweepstakes	Consumer's deal proneness and buying behavior	Grocery products	US	Survey	582

Lichtenstein, Netemeyer, and Burton (1995)	Display, rebate, coupon, sales, cent-off, buy one get one free, free gift with purchase, contest and sweepstake proneness	Quantity of promoted items purchased, money spent on promoted items, money saved on promoted items	Bakery		US	Survey	582
Liu and Chou (2018)	Monetary and non-monetary promotions	Consumer's inaction inertia	Concert ticket, laundry detergent	hall	Taiwan	Experiments	221
Liu, Zhao, Chau and Tang (2015)	Mobile coupon	Redemption intention	M-coupon application		China	Survey	271

Low and Lichtenstein (1993)	Advertised reference price and free premium purchase	Consumer attitude	Calculator	US	Laboratory experiments using student subjects	533
Lowe (2010)	Extra free product promotion, discount	Consumers' evaluation	Painkillers, aa batteries		Experiment	322
Lowe and Barnes (2012)	Extra free product vs. Introductory low price	Consumer preference	Painkillers, batteries	UK	Experiment	678
Lowe, Chan, and Yeow (2014)	Price promotion	Reference price	Usb stick, fairtrade coffee	UK	Experiments	641
Luk and Yip (2008)	Monetary promotion sales	Purchase behaviour	Ladies' fashion	Hong Kong	Survey	326
Madan and Suri (2001)	Price discount, fixed price offer	Consumer valuation of products	Television set	US	Interview, experiment	209

Martínez and Montaner (2006)	Store flyers, coupons and in-store promotions	Proneness to in-store promotions, proneness to flyers, proneness to coupons	Package food and cleaning products	Spain	Survey	425
Mauri, Maira and Turci (2015)	Monetary and non-monetary promotions, national brand promotions	Consumer purchase behavior	Supermarket	Italy	Survey	154
Mazar, Shampanier and Ariely (2017)	Gambling- or lottery-type price promotion (a chance to receive one's entire purchase for free)	Consumer's purchase intention	Candy, DVD	Canada	Field experiment, laboratory experiment	1650

McKechnie, Devlin, Ennew and Smith (2012)	Price discount and (percentage absolute terms)	Consumers' perceptions, purchase intention	Chocolate, holiday package	UK	Experiments	91
Meyer-Waarden (2008)	Loyalty programme membership	Customer purchase behaviour	Supermarket	France	Secondary data	2,150 consumers (week 28/1998 - week 28/2001)
Miller, Brannon, Salas and Troncoza (2021)	Price incentive	Consumers' premium level of purchase for vertically differentiated products	Automotive	US	Secondary data	323,959
Mishra and Mishra (2011)	Price discount and quantity-based sales promotions	Consumer preference of promotion type	Raisins, chocolate	US	Laboratory experiments	443

Molla Descals, Ruiz Molina and Gomez-Borja (2014)	Monetary promotion	saving	Consumer purchase behavior	Beer	Spain	Secondary data	168,568
Montaner and Pina (2008)	Monetary and non- monetary promotions		Consumer's expectations of price, brand image assessments	Whisky, chocolates, deodorant, ice cream, olive oil, toothpaste, toilet paper	Spain	Experiment	323
Montaner, de Chernatony and Buil (2011)	Gift promotion		Consumer evaluation, purchase intention	Sports shoes, mp3	UK	Experiment	247

Mukherjee, Jha, and Smith (2017)	Pre-order discount for a new product	Consumers' value perceptions towards the deal, purchase intentions	Tablet pc, camera, smartphone (all would be released to the market in the future)	N/A	Online experiments	951
Mussol, Aurier and de Lanauze (2019)	Monetary and non-monetary promotion	Perceived brand expression	Ice cream	France	Experiment	812

Narasimhan (1984)	Cents-off coupons	Consumer's decision to the coupon use	Toilet tissues, paper towels, stuffing and dressing, shampoo, cooking and salad oil, ready-to-eat cereal, dog food, dry mix dinners, bars and squares, cake mix, cat food, frozen entrees, gelatine, spaghetti sauces, crème rinse and conditioners, soups, other mixes	US	Secondary data	1000
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Nguyen, Emberger-Klein and Menrad (2021)	Personalized coupon	Consumer's redemption coupon	of	Healthy fast food	Germany	Laboratory experiment	207
Nigam, Dewani and Behl (2020)	Deal of the day promotion	Consumer's purchasing intention and behavior	and	Online retailer	US, India	Focus group, in-depth interview, secondary data	3 focus group studies, 20 indepth personal interviews, 515 (in year 2019)
Nijs, Dekimpe, Steenkamp and Hanssens (2001)	Price promotion	Product category demand in the short and the long run		Consumer good (not specified)	Netherlands	Secondary data	560
Nikabadi, Safui and Agheshlouei (2015)	Monetary and non-monetary promotion	Brand equity		L.G, Samsung products	Iran	Survey	392

Nunes and Park (2003)	Discount, premium	Consumer preference	Desk lamp, wool blanket, airline ticket, dog treats	US	Experiments	635
Nusair, Jin Yoon, Naipaul and Parsa (2010)	Price discount	Consumer perceptions of quality, purchase intention	Restaurant, hotel	US	Experiment	118
Oh and Kwon (2009)	Price promotion	Consumer spending	Holiday shopping	US	Survey	501
Ong, Ho and Tripp (1997)	Price discounts and bonus pack	Perceived value and purchase intentions of bonus pack offer	Moisturizing skin lotion	US	Survey	359

Pacheco and Rahman (2015)	Promotion types (coupon vs. Markdown - temporary price reduction), promotion depth (high vs. Low face values)	Consumer perceptions of the deal, perceived product quality, purchase intentions	Leather goods	Trinidad and Tobago	Laboratory experiment	190
Palazón and Delgado (2009)	Price discount, premium	Perceived value of the promotion, buying intention	Pizza, soft drinks, cd rack,	Spain	Experiment	229

Palazon and Delgado-Ballester (2009)	Price discount versus premium promotion, promotional benefit level (low, medium, high)	Consumer preference promotions	for Chips, toothpaste, soap, pudding, coffee, shampoo, soft drinks, pizza, snacks, cd rack	Spain	Laboratory experiments	136
Palazon and Delgado-Ballester (2013)	Premium-based promotion	Consumer preference	Pizza, credit/debit card, hotel	Spain	Survey	450
Palazon-Vidal and Delgado-Ballester (2005)	Monetary and non-monetary promotions	Consumer perception	Laundry detergent, chocolate	Spain	Experiment	167

Palmeira and Srivastava (2013)	Free gift and discounted price	low,	Willingness to pay for the supplementary product as a stand-alone product, once the promotion is retracted; expected price of supplementary product	Pizza, bread sticks, toothbrush, toothpaste, chocolate mousse dessert, tomato sauce, jewellery, thermometer,	Australia, US	Experiments	1,517
Parguel, De Pechpeyrou, Sabri-Zaaraoui and Desmet (2007)	Bundling		Perceived monetary benefit, perceived cost	Chocolate bar, shower gel	Europe	Interview, experiment	138

Park (2004)	Manufacturer's promotional support (sales support, ad/display materials, monetary support, and selling aid samples)	Retailer buyer's choice	Apparel	US	Survey	137
Park and Yi (2019)	Free gift promotion	Evaluation of the promoted product	Laptop, hotel, fitness centre	N/A	Online experiments	395
Park, Chung and Woo (2013)	Reward program	Consumer loyalty	Restaurants	Korea	Experiments	410

Pauwels, Hanssens, and Siddarth (2002)	Price promotion	Long-term effect on the components of brand sales (category incidence, brand choice, and purchase quantity)	Storable and perishable product	US	Secondary data	4,225 households (July 1986- September 1988)
Qi, Peng and Chen (2021)	Monetary and non- monetary giveaways	Promotion effectiveness, consumer preference	Fashion e-tailer, shampoo, soap, ice- cream	China, Hong Kong	Field data, experiments	625 (January 1, 2011 - December 31, 2013), 690

Raghubir (2004)	Free gift	Price perception and willingness to pay for the free gift product as a stand-alone product	Pearl necklace and bracelet; key chain, pen	US	Laboratory experiments	149
Raghubir (2005)	Bundling, free gift	Willingness to buy	Pearl, body mist, fragrance	US	Laboratory experiments	220
Raji, Rashid and Ishak (2019)	Price discount, rebate, gift	Consumer's purchase intention	Social media	Malaysia	Survey	615

Ramanathan and Dhar (2010)	Price cut (“save \$x” versus “get \$x off”), expiration date of price promotion (immediate versus future expiration)	Overall shopping basket size, composition of shopping basket	Grocery products	US	Laboratory experiments, field experiment	334
Rehman, Yusoff, and Zabri Ismail (2017)	Price discount, free sample, buy one get one free	Buying behavior	Fashion industry	Pakistan	Survey	384
Revoredo-Giha, Akaichi and Leat (2018)	Price and volume promotion	Consumer's choices	Food and drink	Scotland	Secondary data	3,694 households (2006-2013)

Roll and Pfeiffer (2017)	Free gift, discount	price	Consumer preference	Flower bouquet, cold remedy	Germany	Survey, experiment	297
Ruzeviciute and Kamleitner (2017)	Monetary and non-monetary programs	loyalty	Consumer participation intention	Café, hairdresser salon	Austria	Survey, experiments	671
Sahay, Mukherjee and Dewani (2015)	Discounts on shipping bundle	surcharge,	Attractiveness of product	Shopping websites	India	Online experiments	391

Santini, Vieira, Sampaio and Perin (2016)	Sales promotion	Short and long-term effects (short-term behavioral effects: purchase intentions, sales volume; long-term perceptual effects: perceived quality, attitudes, costs of change, loyalty)	Consumer products (not specified)	N/A	Meta-analysis of 40 articles	139
Scheer, Shehryar and Wood (2010)	Price discount (percentage and absolute terms)	Consumer perception of discount	Jacket, calculator, tv	US	Experiment	408

Schneider and Currim (1991)	Active deal-prone versus passive deal-prone	Brand choice set size, purchase quantity, purchase timing	Regular ground coffee purchases	US	Secondary data	200 households
Shaddy and Fishbach (2017)	Bundling	Willingness to buy	Chocolate bar, brownie, chocolate truffle, Christmas card, automotive service, travel bag, baseball card	US	Online experiments, laboratory experiments	2326
Sharma and Joshi (2021)	M-coupon	Sharing behavior	Social networking sites	India	Survey	150

Shen (2014)	Buy one get one free (bogof), price discount	Consumer attitude, stocking up tendency, perceived performance risk, transaction value, purchase intention	Painkiller	US	Experiment	246
Shimp and Kavas (1984)	Coupons in magazines, newspapers, direct mail, in and on pack	Consumer's intentions to use coupons and coupon usage behavior	Grocery products	US	Survey	770 households
Simon, Smith and West (2010)	Price incentives, loyalty programs	Consumer choice	Credit card	Australia	Secondary data	662 (June 2007)
Sinha and Verma (2018)	Monetary and non-monetary promotions	Consumer perception	Fast moving consumer goods	India	Survey	400

Sinha and Verma (2020)	Monetary and non-monetary promotion	Consumer perceived value	Biscuit, chocolates, toothpaste, soap	India	Survey	400
Slotegraaf and Pauwels (2008)	Price promotion	Long-term effectiveness (sales increase)	Bottled juice, toothpaste, laundry detergent, cheese, soft drinks, paper towel, toilet tissue	N/A	Secondary data	100 brands (September 1989-May 1997)
Smith and Sinha (2000)	Price discount, extra volume promotion, "mixed" promotion	Consumer preference	Bread, deli-fresh sliced cheese, bath tissue, liquid laundry detergent	US	Experiment	480
Spiekermann, Rothensee and Klafft (2011)	Coupon	Coupon redemption	Restaurant chain subway	N/A	Survey	116

Srinivasan, Pauwels, Hanssens and Dekimpe (2004)	Price promotion	Manufacturer and retailer revenue	Supermarket	US	Secondary data	96 stores (September 1989 - May 1997)
Stilley, Inman and Wakefield (2010)	Stockpiling-inducing promotions (e. Buy- one-get-one-free promotions), price discount	Planned-item spending, unplanned-item spending	Grocery products	US	Field experiment	317
Suri, Manchanda and Kohli (2000)	Price discount	Consumer's perception of quality and value for product	Oxford shirt	US	Experiment	103
Suri, Manchanda and Kohli (2002)	Price discount	Consumer's perception of quality and value for product	Oxford shirt	US	Experiment	34

Suri, Manchanda and Lee (2004)	Price discount		Consumer evaluation of product	of Oxford shirt	US, south Korea	Laboratory experiments	124
Tan, Akram and Sui (2019)	Uncertain discount	level	Consumers' perceived product quality	Non-basic necessities	China	Online experiments	445
Tang, Zhao and Liu (2016)	Mobile coupon		Consumer sharing behavior	Social network sites	China	Survey	247
Teck Weng and Cyril de Run (2013)	Coupon, discount, samples and packs	price free bonus	Behavioural intention and purchase satisfaction	Convenience, shopping, specialty/luxury and unsought product	Malaysia	Survey	1,300
Teng (2019)	Trading promotions	stamp	Factors influencing customer participation	Convenience store	Taiwan	Survey	400
Tsai and Lee (2007)	Targeted promotion		Consumer perception unfairness	of Fitness centre	Taiwan	Experiment	104

Tsiros and Hardesty (2010)	Steadily decreasing discounting	Level of discount offered and timing to end a price promotion	Consumer electronics, finer foods, kitchen appliance	US	Secondary data, field experiment, laboratory experiments	Dominick's stores (1989–1997), 547
Vakeel, Sivakumar, Jayasimha and Dey (2018)	Online flash sales	Intention of re-participation	Electronic retailers	US	Netnography, survey	3,700 tweets (August 2014 - October 2015), 360

Van Heerde, Gupta and Wittink (2003)	Price discount	Sales bump from brand switching, purchase acceleration, stockpiling	Margarine, soft drinks, paper towels, bathroom tissue, dryer softeners, yogurt, tuna, sugar, ice cream, potato chips, bacon, liquid detergents, coffee, butter	US	Secondary data	759 households
Venkatesan and Farris (2012)	Coupon	Consumer purchase behavior	Regional chains grocery	US	Secondary data	2,500 households

Wakefield and Barnes (1996)	Sales promotion	Promotion proneness, repatronage intentions, perceived value of service provision	Minor league baseball	US	Survey	308	
Walters (1988)	Retail promotion	sales merchandise sales, traffic, sales, profit	Full-margin, non-promoted	Packaged goods in grocery setting	US	Secondary data	361

Walters and Jamil (2003)	Hi-lo sales promotion	Read the retailer's flyer, talk to other consumers about specials, purchase more features relative to the dollar amount, purchase in-store price specials, coupon redemption rate, shopping basket profits	Grocery products	US	Survey	449
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Winterich and Barone (2011)	Cents-off deals and donation-based promotions	Consumer promotion preferences	Bottled water, cereal, coffee	US	Laboratory experiments	946
Wirtz and Chew (2002)	Monetary incentive	Consumer word-of-mouth behavior	Mobile phone service	Singapore	Experiments	430
Won and Shapiro (2021)	Price bundling	Purchase intention	NBA all-star game, hotel	US	Survey	836
Wu, Zhao, and Chen (2021)	Coupon, shipping free	Review ratings	E-commerce website	China	Laboratory experiments	N/A
Xia and Bechwati (2017)	Price promotion	Checkout donation	Camera, wireless speakers, wine	US	Online experiments	650
Xia and Monroe (2009)	Price promotion, free gift	Willingness to buy	Kitchen paper, athletic shoes, laptop computer, computer diskettes	US	Experiments	617

Xia and Monroe (2017)	Targeted promotion	Perceived fairness	Camera, stereo set	US	Experiment	403
Xie and Keh (2016)	Price discount, donation promotion	Purchase intention, brand attitude, attitude for crisis	Juice, toaster, fast-food chain (McDonald, burger king)	China	Online experiment, field experiment	636
Yao, Chen and Zhao (2013)	(Im)precise rewards promotion at small probabilities	Consumer preference	Orange juice, humidifier, mp3	air China	Experiments	786
Yi and Yoo (2011)	Monetary and non-monetary promotions	Long-term brand attitude	Mp3 player	South Korea	Experiment	154
Tong, Lai and Tong (2012)	Price discount	Female's purchase intention	Retail shoes	Malaysia	Survey	300

Zafar, Qiu, Shahzad, Shen, Bhutto and Irfan (2021)	Online promotions	bundle	Impulse buying	Social media		Pakistan, China, Russia, South Korea, Africa, The Middle East And America	Survey	358
Zhang and Breugelmans (2012)	Item-based program points promotion	loyalty reward	Consumer purchase behavior, retailer's sales revenue	Supermarket categories)	(205	Us	Secondary data, simulation	2104
Zhang, Cai and Shi (2021)	Price promotion		Consumer's donation behavior	Online website, café,	shopping	China, US, Singapore	Online experiments, field experiments	1675
Zhao, Tang, Liu, and Liu (2016)	Mobile coupon		Coupon sharing intention	Social media		China	Survey	297

Table 3

Theoretical approaches used in sales promotion research.

Theory	Number of studies	Authors
Prospect theory	43	Diamond and Campbell (1989); Alba, Mela, Shimp and Urbany (1999); Diamond and Johnson (1990); Lowe and Barnes (2012); Kalwani, Yim, Rinne, and Sugita (1990); Jaber and Goggins (2013); Lowe, Chan, and Yeow (2014); Iranmanesh, Jayaraman, Zailani and Ghadiri (2017); Nigam, Dewani and Behl (2020); Drechsler, Leeflang, Bijmolt and Natter (2017); Gamliel and Herstein (2012); McKechnie, Devlin, Ennew and Smith (2012); Park and Yi (2019); McKechnie, Devlin, Ennew and Smith (2010); Nusair, Jin Yoon, Naipaul and Parsa (2010); Roll and Pfeiffer (2017); Crespo-Almendros and Del Barrio-Garcia (2016a); Gamliel and Herstein (2011); Campbell and Diamond (1990); Chandran and Morwitz (2006); Palmeira and Srivastava (2013); Chen, Marmorstein, Tsiros and Rao (2012); Dallas and Morwitz (2018); Nunes and Park (2003); Shaddy and Fishbach (2017); Chatterjee (2011); Shen (2014); Drozdenko and Jensen (2005); Gendall, Hoek, Pope and Young (2006); Lowe (2010); Palazón and Delgado (2009); Raghuram (2005); Suri, Manchanda and Kohli (2000); Lee (2002); Bolton and Shankar (2003); Koo and Suk (2020); Lehtimäki, Monroe and Somervuori (2019); Mazar, Shampanier and Ariely (2017); Park, Chung and Woo (2013); Palazon and Delgado-Ballester (2009); Crespo-Almendros and Del Barrio-García (2016b); Won and Shapiro (2021); Pacheco and Rahman (2015)

Acquisition-transaction utility theory	37	Santini, Vieira, Sampaio and Perin (2016); Wirtz and Chew (2002); Mauri, Maira and Turci (2015); Ailawadi, Neslin and Gedenk (2001); Fogel and Thornton (2008); Green (1995); Mazar, Shampanier and Ariely (2017); Stilley, Inman and Wakefield (2010); Drozdenko and Jensen (2005); Palazón and Delgado (2009); Park, Chung and Woo (2013); Crespo-Almendros and Del Barrio-García (2016a); Pacheco and Rahman (2015); Banerjee and Yancey (2010); Fam, Brito, Gadekar, Richard, Jargal and Liu (2019); Teng (2019); Chong, Li, Ngai, Ch'ng and Lee (2016); Khare, Sarkar and Patel (2019); Liu, Zhao, Chau and Tang (2015); Tang, Zhao and Liu (2016); Spiekermann, Rothensee and Klafft (2011); Lee and Ariely (2006); Lichtenstein, Netemeyer, and Burton (1995); Deng, Staelin, Wang and Boulding (2018); Chandon, Wansink and Laurent (2000); Zhang, Cai and Shi (2021); Gupta (1988); Madan and Suri (2001); Montaner, de Chernatony and Buil (2011); Parguel, De Pechpeyrou, Sabri-Zaaraoui and Desmet (2007); Lichtenstein, Burton and Netemeyer (1997); Wakefield and Barnes (1996); Martínez and Montaner (2006); Vakeel, Sivakumar, Jayasimha and Dey (2018); Kaveh, Nazari, van der Rest and Mira (2021); DelVecchio (2005); Sharma and Joshi (2021)
Attribution theory	17	Drozdenko and Jensen (2005); Fam, Brito, Gadekar, Richard, Jargal and Liu (2019); Gedenk and Neslin (1999); Kareem Abdul (2017); Pacheco and Rahman (2015); Chong, Li, Ngai, Ch'ng and Lee (2016); Lichtenstein, Netemeyer, and Burton (1995); Vakeel, Sivakumar, Jayasimha and Dey (2018); Anderson and Simester (2004); Chakraborty and Cole (1991); Crespo-Almendros and Del Barrio-Garcia (2016b); Dallas and Morwitz (2018); Gupta and Cooper (1992); Xie and Keh (2016); Montaner and Pina (2008); Clayton and Heo (2011); Xia and Monroe (2017)

Theory of reasoned action	15	Lichtenstein, Netemeyer, and Burton (1995); Chakraborty and Cole (1991); Wirtz and Chew (2002); Ailawadi, Neslin and Gedenk (2001); Chandon, Wansink and Laurent (2000); Martínez and Montaner (2006); Laroche, Pons, Zgolli, Cervellon and Kim (2003); Bawa and Shoemaker (1987); Iranmanesh, Jayaraman, Zailani and Ghadiri (2017); Shen (2014); Buil, de Chernatony and Martínez (2013a); Shimp and Kavas (1984); Heidarzadeh Hanzaee and Esmaeilpour (2017); Nikabadi, Safui and Agheshlouei (2015); Garretson and Clow (1999)
Price discrimination theory	14	Diamond and Johnson (1990); Liang, Yang, Chen and Chung (2017); Meyer-Waarden (2008); Schneider and Currim (1991); Wirtz and Chew (2002); Mauri, Maira and Turci (2015); Laroche, Pons, Zgolli, Cervellon and Kim (2003); Venkatesan and Farris (2012); Ailawadi, Neslin and Gedenk (2001); Bawa and Shoemaker (1987); Fogel and Thornton (2008); Green (1995); Narasimhan (1984); Chakraborty and Cole (1991)
Mental accounting theory	14	Kaveh, Nazari, van der Rest and Mira (2021); Lowe and Barnes (2012); Drechsler, Leeftang, Bijmolt and Natter (2017); Roll and Pfeiffer (2017); Nunes and Park (2003); Chatterjee (2011); Lowe (2010); Won and Shapiro (2021); Scheer, Shehryar and Wood (2010); Campbell and Diamond (1990); Liu and Chou (2018); Breugelmans and Campo (2016); Diamond (1992); Ho Ha, Suk Hyun and Pae (2006)
Adaptation-level theory	11	Diamond and Campbell (1989); Gupta and Cooper (1992); Campo and Yagüe (2007); Alba, Mela, Shimp and Urbany (1999); Diamond and Johnson (1990); Kareem Abdul (2017); Tsiros and Hardesty (2010); Lowe and Barnes (2012); Kalwani, Yim, Rinne, and Sugita (1990); Pauwels, Hanssens, and Siddarth (2002); Banerjee and Yancey (2010)
Economic theory	11	Scheer, Shehryar and Wood (2010); Kareem Abdul (2017); Blattberg, Buesing, Peacock and Sen (1978); Kimbrough, Porter and Schneider (2021); Stilley, Inman and Wakefield (2010); Spiekermann, Rothensee and Klafft (2011); Madan and Suri (2001); Tsiros and Hardesty (2010);

Kalwani, Yim, Rinne, and Sugita (1990); Revoredo-Giha, Akaichi and Leat (2018); Mukherjee, Jha, and Smith (2017)

Price perceptions theory	10	Pauwels, Hanssens, and Siddarth (2002); Lowe and Barnes (2012); Campbell and Diamond (1990); Lehtimaki, Monroe and Somervuori (2019); Kareem Abdul (2017); Lowe, Chan, and Yeow (2014); Khare, Ahtani and Khattar (2014); Jha, Dutta and Koksal (2019); DeVecchio, Krishnan and Smith (2007); Campbell and Diamond (1990)
Decision theory	9	Diamond and Campbell (1989); Diamond and Johnson (1990); Mazar, Shampanier and Ariely (2017); Tsiros and Hardesty (2010); Stilley, Inman and Wakefield (2010); Hardesty and Bearden (2003); Kim and Min (2016); Srinivasan, Pauwels, Hanssens and Dekimpe (2004); Aigner, Wilken and Geisendorf (2019)
Behavioral learning theory	8	Diamond and Johnson (1990); Pauwels, Hanssens, and Siddarth (2002); Luk and Yip (2008); Ruzeviciute and Kamleitner (2017); Santini, Vieira, Sampaio and Perin (2016); Gedenk and Neslin (1999); Kwiatek and Thanasi-Boçe (2019); Anderson and Simester (2004)
Congruency/consistency theory	8	Pacheco and Rahman (2015); Wakefield and Barnes (1996); Kim and Min (2016); Blom, Lange and Hess (2021); Büttner, Florack and Göritz (2015); Palazon and Delgado-Ballester (2013); Garretson and Burton (2003); Kwok and Uncles (2005)
Assimilation-contrast theory	7	Diamond and Campbell (1989); Gupta and Cooper (1992); Jaber and Goggins (2013); Lowe, Chan, and Yeow (2014); Scheer, Shehryar and Wood (2010); Campo and Yagüe (2007); Alba, Mela, Shimp and Urbany (1999)
Range theory	7	Lehtimaki, Monroe and Somervuori (2019); Kareem Abdul (2017); Khare, Sarkar and Patel (2019); Lowe, Chan, and Yeow (2014); Khare,

		Achtani and Khattar (2014); Jha, Dutta and Koksai (2019); DelVecchio, Krishnan and Smith (2007)
Social exchange theory	7	Sharma and Joshi (2021); Nunes and Park (2003); Tang, Zhao and Liu (2016); Casalo and Romero (2019); Kang, Tang and Fiore (2015); Xia and Bechwati (2017); Mussol, Aurier and de Lanauze (2019)
Framing theory	7	Campbell and Diamond (1990); Wu, Zhao, and Chen (2021); Zafar, Qiu, Shahzad, Shen, Bhutto and Irfan (2021); Scheer, Shehryar and Wood (2010); Clayton and Heo (2011); Parguel, De Pechpeyrou, Sabri-Zaaraoui and Desmet (2007); Raghbir (2005)
Reference price theory	7	Lowe and Barnes (2012); Gedenk and Neslin (1999); Khajehzadeh, Oppewal and Tojib (2015); Chatterjee (2011); Alba, Mela, Shimp and Urbany (1999); Sahay, Mukherjee and Dewani (2015); Yi and Yoo (2011)
Theory of planned behavior	6	Authors; Guo, Zhang, Zhang and Ke (2020); Nguyen, Emberger-Klein and Menrad (2021); Fong, Nong, Leung, and Ye (2021); Boschetti, Perin, de Barcellos, Sampaio and Basso (2017); Bharadwaj and Bezborah (2021); Rehman, Yusoff, Zabri and Ismail (2017)
Dual-process theories	6	Lee and Ariely (2006); Tsai and Lee (2007); Kareem Abdul (2017); Fam, Brito, Gadekar, Richard, Jargal and Liu (2019); Aydinli, Bertini, and Lambrecht (2014); Bandyopadhyay, Sivakumaran, Patro and Kumar (2021)
Game theory	5	Deng, Staelin, Wang and Boulding (2018); Srinivasan, Pauwels, Hanssens and Dekimpe (2004); Heydari, Heidarpoor and Sabbaghnia (2020); Kimbrough, Porter and Schneider (2021); Allender and Richards (2012)
Cognitive dissonance theory	4	Drozdhenko and Jensen (2005); Fam, Brito, Gadekar, Richard, Jargal and Liu (2019); Gedenk and Neslin (1999); Kareem Abdul (2017)

Self-perception theory	4	Chakraborty and Cole (1991); Gedenk and Neslin (1999); Pauwels, Hanssens, and Siddarth (2002); Palazon-Vidal and Delgado-Ballester (2005)
Self-determination theory (sdt)	4	Sharma and Joshi (2021); Tang, Zhao and Liu (2016); Lee and Ariely (2006); Bauer, Linzmajer, Nagengast, Rudolph and D'Cruz (2020)
Norm theory	4	Chandran and Morwitz (2006); Tsai and Lee (2007); Coulter and Roggeveen (2012); Ku, Wang and Chiang (2020)
Self-determination theory	4	Sharma and Joshi (2021); Tang, Zhao and Liu (2016); Lee and Ariely (2006); Bauer, Linzmajer, Nagengast, Rudolph and D'Cruz (2020)
Construal level theory	3	Lee and Ariely (2006); Koo and Suk (2020); Wu, Zhao, and Chen (2021)
Commitment-trust theory	3	Kang, Tang and Fiore (2015); Khare, Sarkar and Patel (2019); Park (2004)
Signaling theory	3	Jha, Dutta and Koksai (2019); Mussol, Aurier and de Lanauze (2019); Lee and Stoel (2014)
Regret theory	3	Coulter and Roggeveen (2012); Nigam, Dewani and Behl (2020); Chatterjee (2007)
Naïve theory	2	Fam, Brito, Gadekar, Richard, Jargal and Liu (2019); Lehtimaki, Monroe and Somervuori (2019)
Reinforcement theory	2	Kwiatek and Thanasi-Boçe (2019); Lambert and Goh (2021)
Regulatory focus theory	2	Khajehzadeh, Oppewal and Tojib (2015); Ramanathan and Dhar (2010)
Stimulus-response theory	2	Zafar, Qiu, Shahzad, Shen, Bhutto and Irfan (2021); Chen and Li (2020)
Social capital theory	2	Sharma and Joshi (2021); Zhao, Tang, Liu, and Liu (2016)
Motivation theory	2	Sharma and Joshi (2021); Zhao, Tang, Liu, and Liu (2016)
Uses and gratification (u and g) theory	2	Sharma and Joshi (2021); Tang, Zhao and Liu (2016)
Evolving theory	2	Buil, de Chernatony and Martínez (2013a); Buil, de Chernatony and Montaner (2013b)

Theory of the allocation of time	2	Walters and Jamil (2003); Blattberg, Buesing, Peacock and Sen (1978)
Information processing theory	2	Suri, Manchanda and Kohli (2000); Palazon and Delgado-Ballester (2009)
Justification-based theory	2	Palazon and Delgado-Ballester (2013); Kim and Min (2016)
Diffusion theory	2	Sharma and Joshi (2021); Lee, Jin, Rhee and Yang (2016)
Cue diagnosticity theory	1	Tan, Akram and Sui (2019)
Cue utilization theory	1	Tan, Akram and Sui (2019)
Persuasion theory	1	Nigam, Dewani and Behl (2020)
Counterfactual thinking	1	Huang and Yang (2015)
Categorisation theory	1	Palazon and Delgado-Ballester (2013)
Classical conditioning theory (cct)	1	Gorji and Siami (2020)
Converging theory	1	Gorji and Siami (2020)
Media richness theory	1	Ieva and Ziliani (2017)
Innovation diffusion theory	1	Lee, Jin, Rhee and Yang (2016)
Processing efficiency theory	1	Feng, Suri, Chao and Koc (2017)
“Coupon primacy” theory	1	Carlson (2018)
Decision justifiability theory	1	Kuo and Nakhata (2016)
Configuration theory	1	Qi, Peng and Chen (2021)
Brand equity theory	1	Langga, Kusumawati and Alhabsji (2021)
Intuitive theory	1	Dallas and Morwitz (2018)

A theory of pre-commitment to indulgence	1	Kivetz and Simonson (2002)
Psychological reactance theory	1	Zhang and Breugelmans (2012)
Priming and affect theories	1	Heilman, Nakamoto and Rao (2002)
Guilty theory	1	Mishra and Mishra (2011)
Self-construal theory	1	Winterich and Barone (2011)
Time discounting theory	1	Chatterjee (2007)
Anchoring and adjustment theory	1	DelVecchio, Krishnan and Smith (2007)
Price partitioning theory	1	Chatterjee (2011)
Social identity theory	1	Xia and Bechwati (2017)

Chapter 2: The Role of Regulatory Focus on Consumer Response to Minimum Purchase

Requirement Sales Promotion

2.1.Introduction

Imagine Diana and Julie are shopping in a clothing store. The store offers a promotion – Get £10 off on orders over £50. Diana is a promotion-focused person – she is comfortable taking chances and plays to win, while Julie is a prevention-focused person – she is a cautious decision-maker and plays it safe. Is Diana more likely to use this offer than Julie? When both choose to redeem the deal, who spends more? Why does one spend more than the other if they both accept the deal? This research aims to identify the conditions under which the MinPR deal is likely to be more effective.

The MinPR is a common type of sales promotion where consumers must spend a minimum amount to benefit from a discount, for example, “\$10 off for every \$50 spent”, “buy four and get 30% off” (Huang & Yang, 2015; Yoon & Vargas, 2010). In many situations, firms use these reminders at the check-out stage to increase shopping cart sizes (Kulkarni, Wang, & Yuan, 2019). We concern the scenario when consumers check out, they will see a message if their purchase amount does not reach the MinPR deal message – if they choose to go back shopping for more, they “accept” the MinPR deal, and if they do not, they “reject” the deal. An offer based on the total value of a shopping cart is an effective upselling tactic to increase a retailer’s average order size (Ferreira, 2019).

Previous studies have focused on why consumers choose to use a MinPR deal from the counterfactual thinking and anchoring effect theories (Yoon & Vargas, 2011; Yoon & Vargas, 2010), yet few have examined consumers’ shopping behavior after they have chosen to use the deal (e.g., Wang & Yang, 2014). The present research focuses on this gap, that is, consumer

purchase behavior after choosing to use a MinPR deal, and tries to answer the following questions: what factors influence a consumer's expenditure once they have been exposed to a MinPR deal message? What is the underlying mechanism of the effect of those factors? How can marketers impact consumer expenditure once they have accepted a MinPR deal?

So far, the motivational factors underlying consumer behavior at the post-deal-usage stage have received little attention. Regulatory focus is a key motivational factor influencing an individual's goal pursuit strategy. Regulatory focus theory suggests that consumers have two self-regulatory systems: one is to seek pleasure and positive outcomes, called "promotion focus", and the other is to avoid pain and negative outcomes, called "prevention focus" (Higgins, 1998). We propose that promotion-focused consumers spend more than prevention-focused consumers when using a MinPR deal and that promotion- and prevention-focused consumers do not spend much differently when choosing not to use a MinPR deal. This research tests this hypothesis as well as the underlying mechanisms and boundary conditions of such effect.

This research extends existing research in three major ways. First, this research extends the understanding of MinPR deal by using regulatory focus theory. Even though counterfactual thinking and anchoring theories explain why consumers buy more with MinPR (Wang & Yang, 2014; Wansink, Kent & Hoch, 1998), they do not examine the effect of motivational factors, such as regulatory focus once a consumer has accepted the MinPR. This research addresses this gap by arguing that different goal pursuit strategies associated with a consumer's regulatory focus could make a significant difference in expenditure after consumers accept a MinPR deal but does not make a significant difference in the probability of choosing the deal in the first place. Second, this research identifies the mechanism of such effect by stressing the importance of persuasion knowledge, which makes prevention-focused consumers spend less than promotion-focused consumers after accepting a MinPR deal. Third, this research

demonstrates the effectiveness of uncertain deals. We demonstrate that deals framed as uncertain do not influence the expenditure directly, but uncertain deals would influence consumers persuasion knowledge level. Both promotion- and prevention- focused consumers show significantly more sensitivity and suspiciousness towards the deal when it is framed as highly uncertain rather than low uncertainty. The findings have clear practical implications for marketing practitioners and retailers. Marketers can use the information about consumers' regulatory focus to better present their promotional messages and eventually achieve a higher sales volume.

2.2. Minimum Purchase Requirement Deal And Consumer Regulatory Orientation

A MinPR is a common type of discount for which consumers need to meet a requirement to redeem the deal benefit (Yoon & Vargas, 2010). One stream of MinPR studies suggests that consumers use a MinPR deal because they counterfactually think about what would happen if they do not. Counterfactual thinking theory suggests that when individuals imagine that a better alternative (upward counterfactual) might have occurred, they judge the factual outcome to be worse, but if they imagine that the alternative could have been worse (downward counterfactual), they judge the factual outcome to be better (Roese, 1997; Yoon & Vargas, 2010). In the context of a MinPR deal, counterfactual thinking means that when consumers do not meet the minimum purchase requirement, they automatically imagine that doing so would have been better – an upward counterfactual of paying a lower price may lead to retrospective self-blame for not using the deal. Consumers imagine that if they had bought more to reach the MinPR for the deal benefit, they might have been happier (Yoon & Vargas, 2010). When consumers meet the minimum purchase requirement and receive the discount, they automatically imagine what might have been worse, such as not getting the discount, and this

downward counterfactual idea makes consumers feel more satisfied with their purchase decision (Yoon & Vargas, 2010).

Another stream of research claims that a MinPR deal can increase the amount of purchased products because of the external reference set by the MinPR (Wang & Yang, 2014; Wansink et al., 1998). Anchoring theory suggests that setting an anchor increases the possibility that consumers will purchase the suggested amount (Wansink et al., 1998). Wansink et al. (1998) showed that anchors embedded in a suggestive selling slogan can increase intended purchase quantity even when the price was not discounted. Because a MinPR deal sets a threshold to redeem the benefit, the “threshold” can serve as a reference point – or an anchor – for purchasing quantity decisions. The setting of a MinPR influences consumers’ expenditure by embedding an internal anchor. When a MinPR is higher than common expenditure, consumers unconsciously spend an amount closer to the anchor set by the MinPR.

Even though past research explains consumers’ MinPR deal usage from the perspectives of counterfactually thinking and anchoring theory, to the best of our knowledge, no existing literature has investigated consumers’ purchasing behavior AFTER they have accepted the MinPR deal. In fact, consumer behavior after accepting the deal is of great importance to guide practitioners to analyse consumers’ responsive strategies. This research aims to answer the following questions. Do consumers stop shopping for more products when they reach the MinPR, or do they buy much more than the MinPR? This research suggests that it depends on the consumer’s regulatory focus.

Regulatory focus theory is a goal pursuit theory, specifically the approach that individuals take to achieve the desired end state (e.g., Crowe & Higgins, 1997). Regulatory focus theory suggests that consumers have different motivational systems directing how they attempt to achieve their goals: self-regulation with a promotion focus or with a prevention focus (Higgins,

1998; Higgins, Shah, & Friedman, 1997; Lockwood, Jordan, & Kunda, 2002). A promotion focus refers to the extent to which one is focused on obtaining positive outcomes and is related to hopes and aspirations, whereas a prevention focus refers to the extent to which one is focused on avoiding negative outcomes and is linked to duty (Higgins et al., 1997). These two regulatory focuses may impact the consumer's decision-making process by shaping how they achieve their goal (Higgins, 1998).

This research focuses on consumer purchase behavior after they have accepted a MinPR deal. Few research has applied regulatory focus to explain the usage of deals. One example is Ramanathan and Dhar (2010)'s research that found marketing cues, such as a saving message ("Save \$x" vs. "Get \$x Off"), an expiration date (today vs. two weeks) and the familiarity of a brand (well-known vs. less familiar), can independently prime a different regulatory focus among shoppers. Their study shows that when marketing cues are compatible with one another or with a corresponding prior regulatory focus, the combination leads to additional purchases of unrelated brands. The present research argues that regulatory focus can also impact a consumer's purchasing behavior after choosing to use a deal. Thus, this research attempts to answer the question of how consumers react to the presence of a MinPR in relation to their regulatory focus.

Counterfactual thinking explains the use of MinPR deals among prevention- and promotion-focused consumers. Upward counterfactuals are more frequently generated under a promotion focus while downward counterfactuals are more frequently generated under a prevention focus (Roese, Hur, & Pennington, 1999). Both promotion- and prevention-focused consumers are equally motivated to use a MinPR deal because promotion-focused individuals imagine receiving the benefit and being happier while prevention-focused individuals imagine not receiving the benefit and being regretful. However, we argue that when consumers accept a MinPR deal, promotion-focused consumers put more items in their shopping cart and spend

more than their prevention-focused counterparts. A promotion focus motivates consumers to perceive their goals as hopes and aspirations, and thus they are more sensitive to the presence or absence of positive outcomes (Lockwood et al., 2002). Therefore, promotion-focused consumers' natural tendency is to approach matches to their goals (Zhu & Meyers-Levy, 2007). Furthermore, promotion-focused consumers tend to include as many options as possible to reach the MinPR (Pham & Chang, 2010). In contrast, a prevention focus makes consumers perceive their goals as duties and obligations, and thus they are sensitive to the presence and absence of negative outcomes (Kirmani & Zhu, 2007; Lockwood et al., 2002). Therefore, prevention-focused consumers' natural tendency is to avoid mismatches with their goals (Higgins, 1998; Zhu & Meyers-Levy, 2007). Downward counterfactual thinking makes prevention-focused individuals imagine a worse alternative, in this case, not obtaining the benefit from the deal. They are motivated to avoid the feeling of regret. Thus, prevention-focused consumers are willing to use a MinPR deal. However, after using a MinPR deal, prevention-focused consumers are more likely to be in a state of vigilance that entails considering more restrictively appropriate options (Chernev, 2004). In other words, prevention-focused consumers act on a conservative mindset and engage in item-specific elaboration in shopping (Crowe & Higgins, 1997; Zhu & Meyers-Levy, 2007). Prevention-focused consumers are conscious of their spending. Once they have accepted the MinPR deal, they reach the deal's par but do not buy much more than the par to avoid wasting too much money. Thus, we hypothesize:

Hypothesis 1: After being exposed to a MinPR deal message, prevention-focused consumers spend less than promotion-focused consumers if consumers use the MinPR deal, whereas there is no difference between prevention and promotion-focused consumers in their expenditure if consumers do not use the MinPR deal.

2.3.The Mediating Role Of Persuasion Knowledge

We argue that prevention- (vs. promotion-) focused consumers spend less money after choosing a MinPR deal due to the activation of persuasion knowledge. Persuasion knowledge is an important determinant of how they identify and cope with external attempts to influence them (Friestad & Wright, 1994). Persuasion knowledge concerns how consumers understand companies' marketing activities, specifically their beliefs regarding marketers' persuasion motives, strategies and tactics (Campbell & Kirmani, 2000). When persuasion knowledge is activated, consumers become suspicious of intentionally hidden motives and perceive the company as manipulative, resulting in a negative evaluation.

The first reason of why we suggest persuasion knowledge as mediator is that MinPR deal is more concerned with cognitive process rather than emotional process. For example, thinking about a MinPR deal and a general price discount deal such as "20% off on all items" - a MinPR deal would require consumers to reach a bar to get a bonus, while a general deal offers a bonus regardless of the purchase amount. A general deal is more likely to trigger emotional excitement than a MinPR deal. Even though a MinPR deal may possibly provide a deeper discount, such as "buy \$100 get 40% off", it requires consumers' mental calculation to evaluate the attractiveness. Moreover, the theories used by the past literature such as counterfactual thinking and anchoring effect are also cognitive theories rather than emotional ones.

The second reason of using persuasion knowledge to explain the effect of regulatory focus on purchase amount is that persuasion knowledge was used to explain pricing tactics (Hardesty, Bearden & Carlson, 2007). They found that individuals with higher levels of pricing tactic persuasion knowledge have more knowledge-related thoughts regarding pricing tactic information than those with lower levels of pricing tactic persuasion knowledge

(Hardesty et al., 2007). Additionally, pricing tactic persuasion knowledge was shown to be more predictive of consumer choices regarding quantity surcharge offers and tensile claim offers (e.g., “Save up to 50 percent Off”) (Hardesty et al., 2007). MinPR is related with quantity offers and tensile offers because there are at least 2 numbers set in a MinPR deal message and it may even contain multiple thresholds or uncertainty in the deal (e.g., “\$5 off on \$50 spent” “\$15 off on \$100 spent” “\$40 off on \$200 spent”, “save up to 50% on orders over \$200”). Thus, persuasion knowledge can be predictive for consumer choices. For people with high level of pricing tactic persuasion knowledge, they may have more thoughts about the deal setting such as comparison with the past deal depth, what they shall purchase to achieve the deal benefit, whether they can reach the minimum purchased requirement, etc. The setting of MinPR can also trigger persuasion knowledge. If the bar is set too high, for example in a grocery store set the deal as “buy \$800 get \$100 off”, the outreached bar would be more likely to activate persuasion knowledge. For people with low level of pricing tactic persuasion knowledge, they would not have much thought about the MinPR deal.

Why do people with high level of persuasion knowledge still use a MinPR deal? The reason lies in the anchoring effect. The existing literature has investigated a form of discount similar to MinPR deal, multi-unit discount (MUD) such as “3 for \$4” (DelVecchio, Heath & Chauvin, 2017). MUDs’ monetary cue (savings) and purchase-quantity cue (volume) increase purchase quantities because anchor-consistent usage theory suggests consumers would inflate purchase quantities according to the number of units offered in the discount. DelVecchio et al. (2017) extended the anchor-consistent usage theory by suggesting that when the anchor is below a consumer’s typical purchase quantity, the MUD may suppress rather than inflate sales. Moreover, for consumers interested in only single-unit purchases, MUDs can produce neutral rather than negative effects (DelVecchio et al., 2017). Similar to MUD, MinPR also provides quantity cues. Based on the anchor-consistent usage theory, lower MinPR discount

will generally increase purchase quantities, and even when consumers cannot reach the bar, the effect of deal on purchase intention is neutral rather than negative. Persuasion knowledge focuses on the cognitive process, as such, the MinPR deal is regarded as a cognitive process of whether consumers choose to achieve the deal benefit and how to achieve it. Their purchase amount is affected by the anchor set in MinPR, so persuasion knowledge can only work on how they reach the purchase amount, for example, by hoarding as many options as possible or calculating the purchasing amount during the shopping trip. The differences in the inclination of eagerness versus vigilance when using MinPR deal lie in consumers' regulatory focus.

We argue that consumers respond to a MinPR deal with a level of persuasion knowledge according to their regulatory focus. Promotion-focused consumers are sensitive to gains and advancements and therefore are more willing to take risks and capture opportunities to ensure their advancement (Righetti, Finkenauer, & Rusbult, 2011). Thus, they are less sensitive to marketers' manipulative intentions and less influenced by their persuasion knowledge. In contrast, a prevention focus increases sensitivity to the marketer's manipulative intent. Prevention-focused consumers' avoidance tendencies make them more likely to focus on negative signals (Kirmani & Zhu, 2007). Because the use of persuasion knowledge may entail a negative perception of the marketers' manipulative intent, promotion- and prevention-focused consumers activate persuasion knowledge differently (Kirmani & Zhu, 2007) when they choose to use a MinPR deal. Specifically, because prevention-focused consumers are more conservative during their goal striving and tend to avoid mismatches (Higgins, 1998), they are likely to focus on negative information and activate persuasion knowledge and skepticism toward marketing activities (Kirmani & Zhu, 2007). In attempting to make a good decision, prevention-focused individuals are inclined to think in terms of how to avoid being unduly persuaded and thus become more vigilant against manipulation, which

leads to the activation of negative persuasion knowledge and greater skepticism regarding marketers' intentions. Applying their persuasion knowledge to the deal restrains prevention-focused consumers from spending more than required because they are suspicious. Hence, promotion-focused consumers spend significantly more than their prevention-focused counterparts after accepting a MinPR deal. This leads to the next hypothesis:

Hypothesis 2: When accepting the MinPR deal, prevention-focused consumers spend significantly less than promotion-focused consumers due to enhanced persuasion knowledge.

2.4. Deal Uncertainty As A Moderator

As illustrated in the previous sections, prevention-focused consumers are more influenced by their persuasion knowledge than promotion-focused consumers when accepting a MinPR deal. As far as we know, previous research has not linked uncertain deals with persuasion knowledge. We argue that marketers can exploit a key variable that may influence consumer's perception of persuasion knowledge – perceived uncertainty.

The uncertain deals are common in the marketplace such as “up to 70% off” (H & M 2022; Yours Clothing, 2022). According to Ailawadi et al. (2014), uncertainty may be due to (a) the consumer's own skill, e.g., contests; (b) pure luck, e.g., sweepstakes; (c) the marketer's decision to express the reward level as “tensile”, e.g., “X% to Y% off this week”; or (d) whether an external event occurs, e.g., “Buy the product now and get \$X off if the Red Sox win the World Series”. This research focuses on the “tensile” uncertain discount, as it is commonly used in retail, grocery and FMCG sector (Banerjee, Tripathi, & Sahay, 2016).

The conflictive findings of preference for uncertain deals derive from the two aspects in the past research – risk aversion versus prospect seeking. On one hand, people are willing to spend less on an uncertain deal, but not because they find the idea intrinsically unpleasant; it

is because people still wish to utilize it at minimal cost (Gao & Jung, 2020). On the other hand, consumers prefer uncertain deals as a way to explore and entertain. Uncertain discount benefit may be more effective because consumers overestimate the probability that the event will occur. People may believe that they are luckier than others or have innate optimism (Alloy & Abramson, 1988; Goldsmith & Amir, 2010). Similarly, Gaertig and Simmons (2020) propose that consumers are more likely to prefer an uncertain price promotion to a sure discount only when the sure discount feels small. Yet there are few research concerning the relationship between regulatory focus and uncertainty. Halamish et al. (2008) used prospect theory to explain the utility of uncertain deals, and demonstrated that losses were discounted less than gains in the prevention focus condition while gains were discounted less than losses in the promotion focus condition. As can be seen, promotion focus is more sensitive to gains, while prevention focus is more sensitive to losses in the condition of uncertainty.

To apply the uncertainty to deals, there are two aspects that could cause uncertainty, which are benefit level, and probability of getting the benefit. The prospect theory specifies two patterns of consumer attitudes in gain domain - risk aversion for gains at high probability and risk seeking for gains at low probability (Kahneman & Tversky, 2013). When the expected probability of a gain event is low, people are likely to seek ambiguity, whereas when the expected probability of a gain event is high, people are likely to avoid ambiguity (Ellsberg, 1961). For example, people prefer “10% chance to get \$100” to a simple \$10 discount, but prefer the \$10 discount to “90% chance to get \$11”, despite the same utility. We set the uncertainty in benefit level uncertain rather than the probability of getting the benefit, because the former is more commonly used in the marketplace, for example, “up to 60% off” (Body & Fit, 2022; EGO Fashion, 2022; End Clothing, 2022; New Look Fashion, 2022), “up to 50% off” (Boots, 2022; Decathlon, 2022; Holland & Barrett, 2022; JD Sports, 2022;

Superdrug, 2022), and “up to 25% off” (Lookfantastic, 2022). In the practice, marketers do not commonly use slogans such as “90% probability of getting \$11 off” or “10% probability of getting \$100 off”.

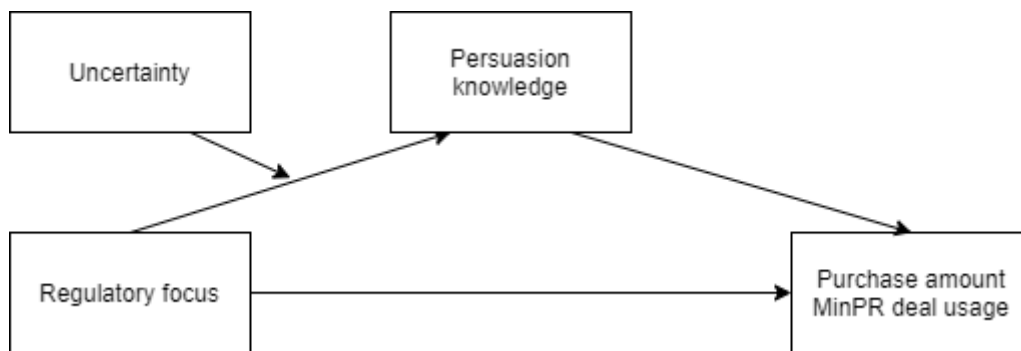
We suggest that promotion and prevention focus perceive the probability of getting the deal benefit differently when the deal benefit is set uncertain. The benefit must be set much higher than certain deal benefit to be attractive for consumers (Gao & Jung, 2020). Specifically, we suggest that promotion-focused people would expect high probability of getting the high deal benefit, while prevention-focused people would expect low probability of getting the high deal benefit. The reason is that, when a discount offers unpredictable gains, consumers may not be sure of receiving any incentives. Promotion-focused consumers would focus on the possible gains to relieve the concern about not getting any benefit, but prevention-focused consumers would not. Moreover, promotion-focused consumers are ambiguity-prone when the deal benefit is uncertain because the psychological reward by imagining the best prize such as the pleasant sentiment (or relief) plays a critical role (Yi, Jeon, & Choi, 2013). Whereas, prevention-focused consumers are sensitive about avoiding unnecessary losses such that uncertainty makes them feel insecure and elicits ambiguity aversion (Liu, 2011). Highly uncertain deal framing would remind prevention-focused consumers of the potential risk of not getting any deal benefit.

Thus, promotion-focused consumers are likely to prefer the uncertain deals due to profit seeking motive, and likely to perceive uncertain deals as exploration and entertainment, and thus, they are more likely to perceive the uncertain deals as less suspicious and evoke less persuasion knowledge. In contrast, prevention-focused consumers are less likely to prefer the uncertain deals due to risk aversion motive, and only willing to pay minimal cost for uncertain deals. Hence, prevention-focused people are more likely to perceive the uncertain deals as more suspicious and manipulative, and thus, evoke higher level of persuasion

knowledge. We assume the interaction between RF and uncertainty only affects persuasion knowledge but not directly affects the MinPR deal usage likelihood or expenditure (see Figure 1). Thus, we propose that:

Hypothesis 3: When accepting a MinPR deal, prevention-focused consumers would show a significantly higher level of persuasion knowledge than promotion-focused consumers when the MinPR deal benefit is framed as highly uncertain.

Figure 1: Conceptual Framework



2.5. Overview Of Studies

In this research, the three hypotheses are tested across three studies. The pre-test checks the feasibility of manipulating temporary regulatory focus by writing an essay. In Study 1, the consumer's temporary regulatory focus is manipulated. The study shows that after being exposed to a MinPR deal message, promotion-focused consumers spend significantly more than prevention-focused consumers if consumers use the MinPR deal (Hypothesis 1). Study 2 shows that persuasion knowledge is the underlying mechanism that decreases prevention-focused consumers' expenditure when they accept a MinPR deal (Hypothesis 2). Finally, in Study 3, the moderating role of deal uncertainty is examined (Hypothesis 3).

Pre-test

A pre-test was conducted to check the feasibility and effectiveness of the manipulation of regulatory focus. Forty-seven participants (21 females; $M_{age} = 44.5$) were recruited from Amazon MTurk. First, the participants' regulatory focus was manipulated by asking participants to write either an essay of three hopes and aspirations (promotion focus) or an essay of three duties and obligations (prevention focus) (Lockwood et al., 2002). Next, the participants were asked two bipolar questions that aimed to capture the focus of their thoughts while writing the essay (e.g., 1 = *avoiding unwanted outcomes*, 7 = *achieving desired outcomes*; 1 = *focus on what I had to do*, 7 = *focus on what I wanted to do*; Cronbach's $\alpha = .87$). Lastly, participants answered the demographic questions. The results show that participants who were primed with promotion focus preferred promotion-focused (vs. prevention-focused) thoughts to participants who were primed with prevention focus ($M_{promotion} = 5.57$, $M_{prevention} = 4.67$, $F(1, 46) = 9.15$, $p = .004$). The results indicate that the manipulation of regulatory focus was successful.

Study 1

The aim of Study 1 is to test H1 using a manipulation of regulatory focus by showing participants a commercial.

Method

Three hundred and twenty participants were recruited from Prolific, an online recruitment platform, to participate in a single-factor design (regulatory focus: promotion vs. prevention focus) for standard payment.

First, participants were primed with either a promotion or a prevention focus by reading an advertisement for lemon soda with either a promotion-focused description (focusing on its energetic and refreshing features) or a prevention-focused description (focusing on its ability to prevent health issues; adapted from Ghiassaleh, Kocher, & Czellar, 2020, see Appendix 1). Then, participants were reinforced the corresponding regulatory focus by asking “After reading the ad and description, what do you think of the product in this ad? Please focus on how the product can help you attain any desired outcomes (e.g., refreshment, good mood etc)/avoid any unwanted outcomes (e.g., avoiding extra sugar, keeping healthy etc)”. Next, participants were asked to shop on a simulated online soft drink store that offered a full range of soft drinks (28 types), including dairy milk, soya milk, soda, juice, functional drinks, coffee/tea and flavored water. Participants were asked to imagine they are shopping online and able to choose as many products as they want. They did not pay the products with real money but virtual online money.

Then, on the checking-out page with the content of their shopping cart, participants saw an MinPR deal message (*‘£3 off for every £15 spent’*) followed by a notice of their current expenditure. Participants were asked whether they would use the deal by clicking “yes” or “no”. The questions checking the manipulation of regulatory focus asked the extent to which participants’ thoughts were focused on “boosting energy”, “enjoying a great taste”, “avoiding extra sugar”, “preventing health issues” or “nutritional ingredients” as they were shopping for soft drinks (1 = *not at all*, 7 = *extremely*; Cronbach’s α of promotion features = .68; Cronbach’s α of prevention features = .75). Then, participants were asked to answer an attention check question (“please select ‘somewhat agree’ in the following options”), and questions regarding familiarity, prior product preferences and demographic information.

Results

Acceptance or rejection of MinPR deal is a measured moderator in this study. All dependent variables were analysed using a 2 (promotion vs. prevention focus) X 2 (accept vs. reject MinPR deal) ANOVA. Participants who did not pass the attention check questions were excluded, which left 299 participants (105 females; $M_{age} = 27.7$).

Manipulation check. To check for the regulatory focus manipulation, participants in the promotion focus condition indicated that they preferred the promotion-focused features to the prevention-focused features ($M_{promotion} = 4.21$, $M_{prevention} = 3.91$, $F(1, 298) = 3.46$, $p = .06$). Participants in the prevention focus condition indicated that they preferred the prevention-focused features to the promotion-focused features ($M_{prevention} = 4.94$, $M_{promotion} = 4.57$, $F(1, 298) = 3.92$, $p = .05$).

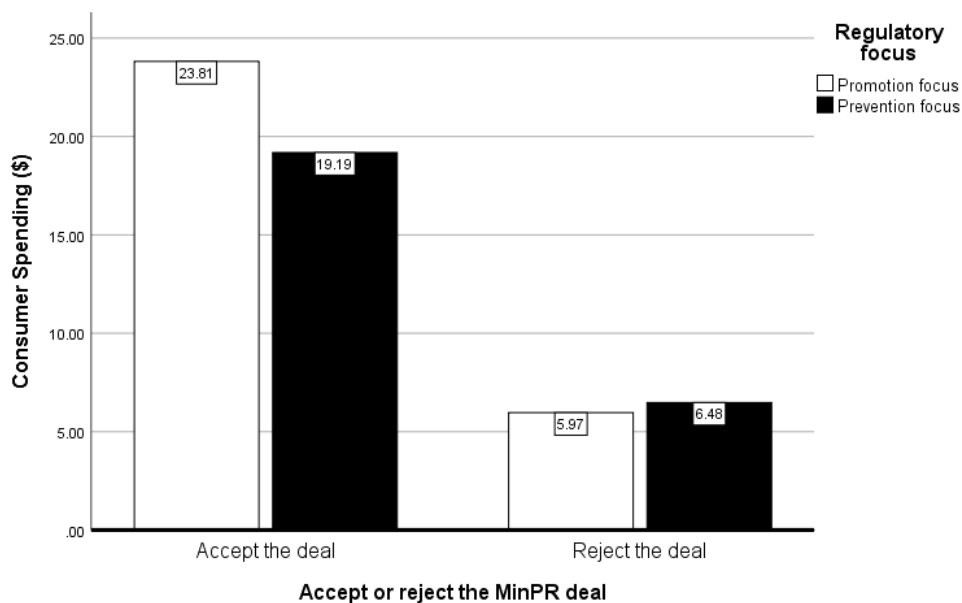
Deal usage rate. A chi-square test of independence was performed to examine the relation between regulatory focus and deal usage. The relation between these variables was non-significant ($\chi^2(1, N = 299) = .03$, $p = .88$). The percentages of using the deal (22.7%) and not using (77.3%) were similar. The results of a chi-square test show that the percentage of participants choosing to use the deal was the same among promotion-focused (50.8%) and prevention-focused (49.2%) participants ($\chi^2(1, N = 299) = .03$, $p = .88$).

Total expenditure. Since acceptance or rejection of MinPR deal is a measured moderator, the results of a two-way ANOVA (regulatory focus x acceptance of MinPR deal) indicate a significant interaction effect between regulatory focus and deal usage on the total expenditure ($F(1, 298) = 16.43$, $p < .01$). The results of a planned contrast analysis show that when consumers accepted the MinPR deal, promotion-focused participants spent significantly more than prevention-focused participants ($M_{promotion} = 23.81$, $M_{prevention} = 19.19$, $F(1, 295) = 17.23$, $p < .01$). When participants did not accept the MinPR deal, expenditure in both

regulatory orientations were not significantly different ($M_{promotion} = 5.97$, $M_{prevention} = 6.48$, $F(1, 295) = .72$, $p > .3$). These results confirm H1.

In addition, regulatory focus had a significant main effect ($F(1, 298) = 10.52$, $p < .01$). The total expenditure that participants spent was higher in the promotion focus condition than in the prevention focus condition ($M_{promotion} = 14.89$, $M_{prevention} = 12.83$). The acceptance or rejection of the MinPR deal also influenced total expenditure ($F(1, 298) = 579.77$, $p < .01$). The amount of money that participants spent was higher when accepting the MinPR deal than when rejecting the MinPR deal ($M_{acceptance} = 21.50$, $M_{rejection} = 6.22$) (Figure 2).

Figure 2. Study 1: Total Expenditure As A Function Of Regulatory Focus And Usage Of MinPR Deal



Discussion

Study 1 provides a robust result that proves H1. When the participants chose to use the MinPR deal, promotion-focused participants spent significantly more on soft drinks than their

prevention-focused counterparts. When the participants did not use the MinPR deal, there was no difference in spending between the two regulatory focus groups.

Study 1 confirms that the likelihood of using a MinPR deal was not different between regulatory orientations. The participants' decision to accept or reject the MinPR deal was not influenced by their regulatory focus. However, their regulatory focus influenced their final expenditure after they chose to use the MinPR deal. Study 2 tests the underlying mechanism of this effect.

Study 2

The purpose of Study 2 is to examine the role of persuasion knowledge in the effect of using the MinPR deal on consumers' final expenditure (H2). It is expected that when participants chose to use the MinPR deal, the persuasion knowledge towards the deal would limit prevention-focused participants' expenditure but not promotion-focused participants' expenditure.

Method

Four hundred and thirty-two participants from Prolific took part in a single-factor design (regulatory focus: promotion vs. prevention focus) for standard payment.

Different with the procedures in Study 1, participants were first primed with either a promotion focus by writing an essay on three hopes and aspirations or a prevention focus by writing an essay on three duties and obligations (Lockwood et al., 2002). The effectiveness of this manipulation was proved in pre-test. Then, participants were asked to shop on a simulated health and beauty store that offered 30 different types of products, such as cleansers, hand sanitizers, shampoos, etc. Participants were asked to imagine they really shopped on this store and are allowed to choose any product they want using virtual online money. At the check-out

page, there was a banner advertising a MinPR deal – ‘£10 off for every £50 spent – You can get £10 off on orders more than £50!’. The setting of the deal imitated a commonly used marketing event of a national health and beauty chain (Boots Plc., 2021). Similar to the procedure in Study 1, participants were asked whether they would choose to use the MinPR deal by clicking “yes” (shopping for more products) or “no” (directly checking out and paying by virtual money).

Then, questions checking the manipulation of regulatory focus examined the participants’ thoughts while shopping in the store (e.g., 1 = *avoid unwanted outcomes*; 7 = *achieve desired outcomes*; 1 = *choose products to help me avoid negative outcomes*; 7 = *choose products to help me achieve positive outcomes*; Cronbach’s $\alpha = .66$) to test if participants focused more on promotion or prevention benefits.

The activation of persuasion knowledge was also examined by asking a five-item question adapted from Hibbert et al. (2007) (“To what extent do you think the sales promotion is: unconvincing/convincing, unbelievable/believable, not truthful/truthful, suspicious/unsuspicious, manipulative/non-manipulative” on a 7-point scale; all reverse coded, Cronbach’s $\alpha = .80$). Finally, participants were asked to complete an attention check question (“please select ‘somewhat agree’ in the following options”), and similar questions in Study 1 regarding familiarity, product preference and demographic information.

Results

Acceptance or rejection of MinPR deal is a measured moderator in this study. Consumers who failed the attention check were excluded, which left a final sample of 400 respondents (204 females; $M_{age} = 36.1$) for further analysis.

Manipulation checks. Whether participants’ thoughts were more focused on achieving positive outcomes or avoiding negative outcomes was examined. The results show that

participants in the promotion focus condition indicated that they preferred achieving positive outcomes to avoiding negative outcomes ($M_{promotion} = 5.89, M_{prevention} = 5.65, F(1, 399) = 3.16, p = .08$). Participants in the prevention condition indicated that they preferred avoiding negative outcomes to achieving positive outcomes ($M_{prevention} = 4.49, M_{promotion} = 4.15, F(1, 399) = 3.89, p = .04$).

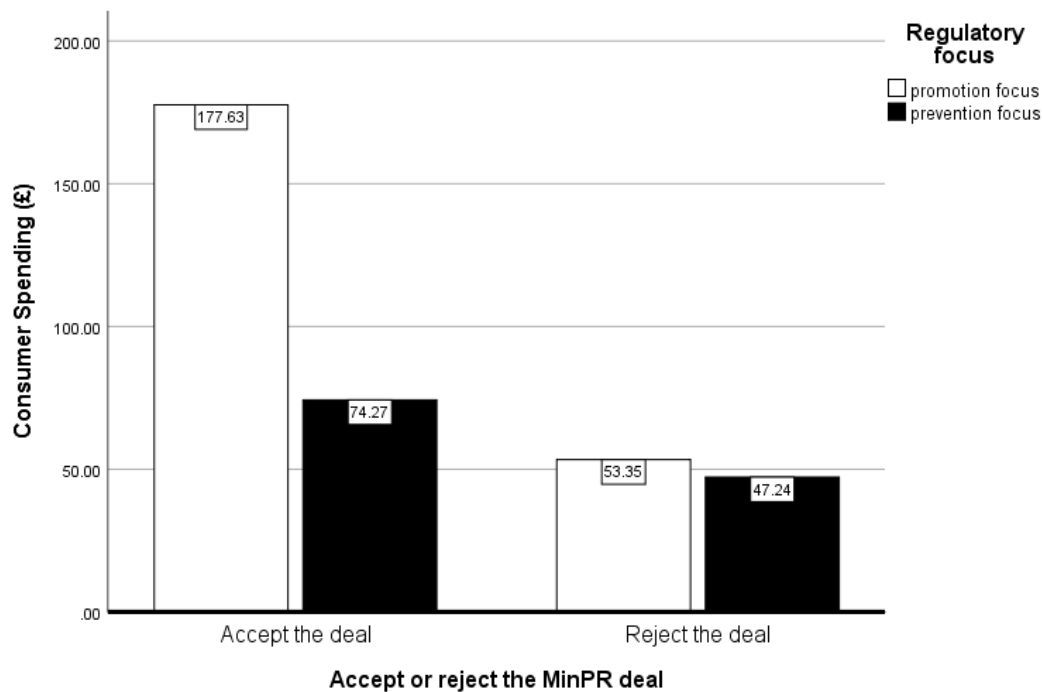
Deal usage rate. A chi-square test of independence was performed to examine the relation between regulatory focus and deal usage. The relation between these variables was non-significant ($\chi^2(1, N = 400) = .28, p = .60$). The percentages of using the deal (52.5%) and not using (47.5%) were similar. The percentage of participants choosing to use the deal was not significantly different between the two regulatory focus conditions, with 47.4% being promotion-focused and 52.6% being prevention-focused ($\chi^2(1, N = 400) = .28, p = .60$).

Total expenditure. Since acceptance or rejection of MinPR deal is a measured moderator, the results of a two-way ANOVA (regulatory focus x acceptance of MinPR deal) indicate a significant interaction effect between regulatory focus and deal usage on final expenditure ($F(1, 399) = 65.76, p = .000$). The results of a planned contrast analysis show that when consumers accepted the MinPR deal, promotion-focused participants spent significantly higher than prevention-focused participants ($M_{promotion} = 177.63, M_{prevention} = 74.26, F(1, 396) = 141.29, p = .000$). On the other hand, when participants did not accept the MinPR deal, expenditures in both regulatory orientations were not significantly different ($M_{promotion} = 53.35, M_{prevention} = 47.24, F(1, 396) = .55, p = .46$). Including the control variables as covariates in the analyses did not influence the pattern of results. The above results confirm H1.

Moreover, there was a significant main effect of regulatory focus ($F(1, 396) = 83.31, p = .000$). The amount of money that participants paid was higher in the promotion focus

condition than prevention focus condition ($M_{promotion} = 115.49, M_{prevention} = 60.75$). There was a main effect of the acceptance or rejection of the MinPR deal on total expenditure ($F(1, 396) = 65.76, p = .000$). The amount of money that participants paid was higher when accepting the MinPR deal than when rejecting the MinPR deal ($M_{acceptance} = 125.95, M_{rejection} = 50.29$) (Figure 3).

Figure 3. Study 2: Total Expenditure As A Function Of Regulatory Focus And Usage Of MinPR Deal



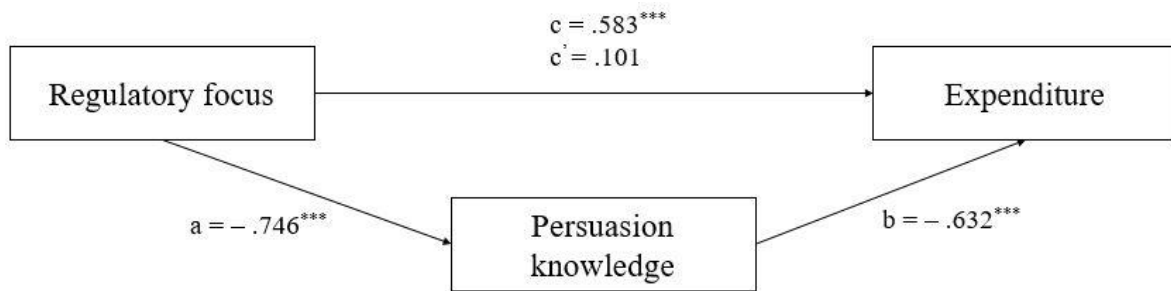
Mediation analysis – persuasion knowledge. A two-way ANOVA indicates a significant interaction effect between regulatory focus and usage of deal on the persuasion knowledge scale ($F(1, 399) = 141.25, p = .000$). The planned contrast analysis further reveals that when consumers accepted the deal, promotion-focused participants were significantly less concerned about marketing strategies than prevention-focused participants ($M_{promotion} = 4.12, M_{prevention} = 5.07, F(1, 399) = 4.28, p = .04$). When consumers rejected the MinPR deal, there was no significant difference in their persuasion knowledge level ($M_{promotion} = 5.89,$

$M_{prevention} = 5.76, F(1, 399) = .77, p = .38$). Second, the expenditure was regressed on persuasion knowledge. The results show that persuasion knowledge accounted for a significant variation in expenditure (i.e., a higher level of persuasion knowledge decreased the expenditure) ($\beta = -.63, t(400) = -16.26, p < .001$).

Moreover, with the variable of deal usage as a moderator, we conducted a mediation analysis using Model 4 in PROCESS 3 (Hayes, 2017). Consistent with H2, bootstrapping with 10,000 resamples reveals a significant mediation (index = 26.29, SE = 5.93, 95% CI = [15.95, 39.23]). The indirect effect of regulatory focus on final expenditure through persuasion knowledge was significant when participants chose to use the MinPR deal ($\beta = 48.14, SE = 10.53, 95\% CI = [27.43, 68.85]$) but not significant when participants chose not to use the MinPR deal ($\beta = 4.91, SE = 7.65, 95\% CI = [-10.14, 19.95]$).

To investigate whether increased persuasion knowledge may have led prevention-focused participants to greater restraint in the final expenditure when consumers chose to use the deal, we filtered the participants who used the deal only. The regression of regulatory focus on expenditure is significant ($\beta = .573, p = .000$). The regression of regulatory focus on persuasion knowledge is also significant ($\beta = -.746, p = .000$). When both regulatory focus and persuasion knowledge are included in regression analysis, the regression of persuasion knowledge on expenditure is significant ($\beta = -.632, p = .000$), but the regression of regulatory focus on expenditure is not significant ($\beta = .101, p = .19$; Figure 4).

Figure 4. Study 2: Mediation Of Persuasion Knowledge Of Accepting MinPR Deal Condition



Notes – ***: $p < .001$

- Regulatory focus: promotion focus = 1, prevention focus = 0.
- a is the coefficient of regulatory focus on persuasion knowledge; b is the coefficient of persuasion knowledge on expenditure; c is the coefficient of regulatory focus on expenditure; c' is the coefficient of regulatory focus on expenditure when both regulatory focus and persuasion knowledge are entered.

Discussion

The results of Study 2 confirm H1 and H2. When consumers accepted a MinPR deal, promotion-focused participants spent significantly more than their prevention-focused counterparts. When consumers did not accept a MinPR deal, their expenditure was much less with almost no difference between the two regulatory focus conditions.

Moreover, the significant indirect effect from regulatory focus to persuasion knowledge to final expenditure when accepting the MinPR deal demonstrates the psychological mechanism of such effect. When participants chose to use the deal, the main reason that prevention-focused consumers spent much less was their significantly higher level of persuasion knowledge, i.e., prevention-focused participants were more concerned about the manipulative intention of the marketers and more suspicious about the deal. The next study tests the moderation role of uncertainty in deal setting.

Study 3

The aim of this study is to examine the moderating effect of the uncertainty of deal (H3). We built a real health, beauty, and wellness store website <https://sitongjiang.wixsite.com/thehuman> to reflect how consumers react in real life. The design of the website does not allow both uncertain and certain deal conditions at the same time. In the study application, we firstly set the website as certain deal condition, and then set the website as uncertain deal condition.

Method

Eight hundred and thirty-two participants, mainly located in the UK and US, were recruited from Prolific for the 2 (regulatory focus: promotion vs. prevention focus) x 2 (uncertain vs. certain deals) between-subject experiment. Similar to the procedure in Study 2, participants were firstly primed with either a promotion or a prevention focus by writing up an essay. Then, they were instructed to shop at the simulated website (<https://sitongjiang.wixsite.com/thehuman>), which contains 33 types of health care, beauty and wellness products with equal number of promotion- and prevention-featured items and gender-neutral items. The setting of the website does not accept participants' real money but virtual money, but in order to simulate the real-life situation, participants were told that there was a chance that they may really buy and get the products they chose on this website.

Moreover, just like the sales messages at the real-life online websites, we put the discount banner and ads at the top and bottom of the page, making it clear and outstanding. In the low uncertain deal condition, consumers saw the discount notice as "*The more you spend, the more you save. £5 off on £50 spend; £15 off on £100 spend; £40 off on £200 spend*". In the high uncertain deal condition, consumers saw the discount notice as "*The more you spend, the more you save. Surprising deal today: up to £100 off! £??? off on £50 spend;*

£?? off on £100 spend; £?? off on £200 spend” (see Appendix 2). The setting of high uncertain deal is based on the most commonly used uncertain deal in the general e-commerce platforms and health and beauty brands such as “up to 50% off” (e.g., Amazon, 2022; Boots, 2022; Superdrug, 2022). We set three thresholds (£50, £100, £200) because the promotion-focused individuals who spent more the first threshold (£50) may want to reach the second or third threshold (to receive additional discount off); however, the prevention-focused individuals were more mindful of the overall spending, and it was sufficient that they only reached the first level of discount. In the past research, high versus low uncertain deal was manipulated as either 0 or a specific discount amount (Ellsberg, 1961; Yi et al., 2013), but in the real marketplace the businesses normally phrase the uncertain deal as up to “a specific discount amount” off (e.g., Amazon, 2022; Boots, 2022; Superdrug, 2022). To better simulate the real-life condition, we used the wording of “up to xx off” rather than “either 0 or xx off”.

Then, in the shopping cart page, consumers will see the discount notice again as a reminder before checking out – participants in low versus high uncertain deal conditions would see different discount notice (see Appendix 3). After completing the shopping, participants returned to the survey to check the manipulation of regulatory focus using the same questions as previous studies, persuasion knowledge towards the deal (“manipulative/non-manipulative, untrustworthy/trustworthy, incredible/credible, unreasonable/reasonable, unconvincing/convincing”, on a 7-point scale; all reverse coded, Cronbach’s $\alpha = .88$, adapted from Nabi & Hendriks, 2003). To test whether the high uncertainty was successfully manipulated, we asked participants their perceived uncertainty towards the deal (“how do you perceive the level of uncertainty of the discount”, 1 = *not at all*, 7 = *extremely*; adapted from Yi et al., 2013). Finally, participants were asked an attention check question (“please select ‘somewhat agree’ in the following options”), and questions

regarding familiarity, product preference and demographic information were same as those in the previous studies.

Results

Acceptance or rejection of MinPR deal is a measured moderator in this study. Participants who failed the attention check and did not visit the website were excluded, which left a final sample of 801 respondents (628 females; $M_{age} = 53.04$) for further analysis.

Manipulation checks. Whether participants' thoughts were more promotion-focused or prevention-focused was examined. The results show that participants in the promotion focus condition indicated that they preferred achieving positive outcomes to avoiding negative outcomes ($M_{promotion} = 5.71, M_{prevention} = 5.38, F(1, 800) = 29.57, p = .001$). Participants in the prevention condition indicated that they preferred avoiding negative outcomes to achieving positive outcomes ($M_{prevention} = 4.40, M_{promotion} = 3.79, F(1, 800) = .167, p < .01$).

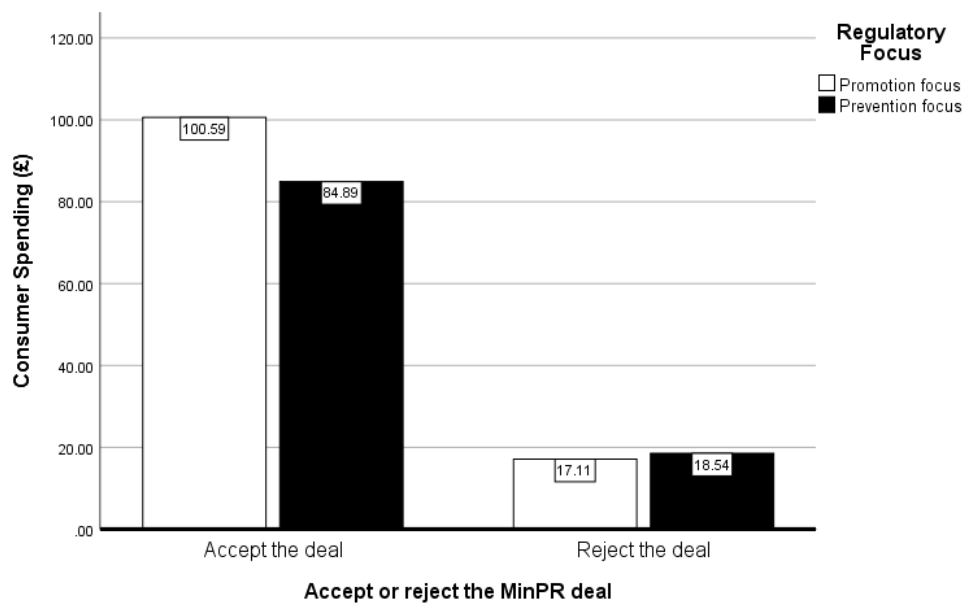
Moreover, the manipulation of the uncertainty of deal is successful. The results show that participants in the low uncertainty condition perceived the deal to be significantly less uncertain than participants in the high uncertainty condition ($M_{low} = 1.87, M_{high} = 3.71, F(1, 800) = 85.11, p < .01$).

Deal usage rate. A chi-square test of independence was performed to examine the relation between regulatory focus and deal usage. The relation between these variables was non-significant ($\chi^2(1, N = 801) = .19, p = .66$). The percentages of using the deal (46.1%) and not using (53.9%) were similar. The chi-square results show that the percentage of participants choosing to use the deal was not significantly different between the two regulatory focus

conditions, with 48.2 % being promotion-focused and 51.8 % being prevention-focused ($\chi^2(1, N = 801) = .19, p = .66$).

Total expenditure. Similar to the results of previous studies, the results of a two-way ANOVA indicate a significant interaction effect between regulatory focus and deal usage on final expenditure ($F(1, 800) = 5.82, p = .02$). The results of a planned contrast analysis show that when consumers accepted the MinPR deal, promotion-focused participants spent significantly more than prevention-focused participants ($M_{promotion} = 100.59, M_{prevention} = 84.89, F(1, 368) = 9.05, p = .003$). On the other hand, when participants did not accept the MinPR deal, expenditure in both regulatory orientations were not significantly different ($M_{promotion} = 18.54, M_{prevention} = 17.11, F(1, 431) = .09, p = .77$, see Figure 5). Including the control variables as covariates in the analyses did not influence the pattern of results. The above results confirm H1.

Figure 5. Study 3: Total Expenditure As A Function Of Regulatory Focus And Usage Of MinPR Deal



Mediation analysis – persuasion knowledge. Similar to the results of previous study, the results of a two-way ANOVA indicate a significant interaction effect between regulatory focus and deal usage on persuasion knowledge ($F(1, 800) = 16.77, p = .000$). The planned contrast analysis further reveals that when consumers accepted the deal, promotion-focused participants were significantly less concerned about marketing strategies than prevention-focused participants ($M_{promotion} = 2.53, M_{prevention} = 3.56, F(1, 800) = 52.80, p = .000$). When consumers rejected the MinPR deal, there was no significant difference in their persuasion knowledge level ($M_{promotion} = 3.59, M_{prevention} = 3.83, F(1, 800) = 3.35, p = .07$). Moreover, when consumers were promotion focused, those who chose to use the MinPR deal were significantly less concerned about the marketing strategies than those who chose not to use the deal ($M_{yes} = 2.53, M_{no} = 3.59, F(1, 797) = 62.03, p < .001$). When consumers were prevention focused, those who chose to use the deal were significantly less concerned than those who chose not to use the deal ($M_{yes} = 3.56, M_{no} = 3.83, F(1, 797) = 3.92, p = .04$).

Then, the expenditure was regressed on persuasion knowledge. The results show that persuasion knowledge accounted for a significant variation in expenditure (i.e., a higher level of persuasion knowledge decreased the expenditure) ($\beta = -.26, t(800) = -7.52, p < .001$).

When consumers chose to use the deal, the regression of regulatory focus on expenditure was significant ($\beta = .11, p = .04$). The regression of regulatory focus on persuasion knowledge was also significant ($\beta = -.24, p = .000$). When both regulatory focus and persuasion knowledge were included in regression analysis, the regression of persuasion knowledge on expenditure was significant ($\beta = -.23, p = .000$), but the regression of regulatory focus on expenditure was not significant ($\beta = .02, p = .71$). The results confirm H2.

Moderated Mediation – Uncertainty of deal. We filtered the data of consumers who used the deal only. Both regulatory focus and uncertainty are dummy variables. Promotion

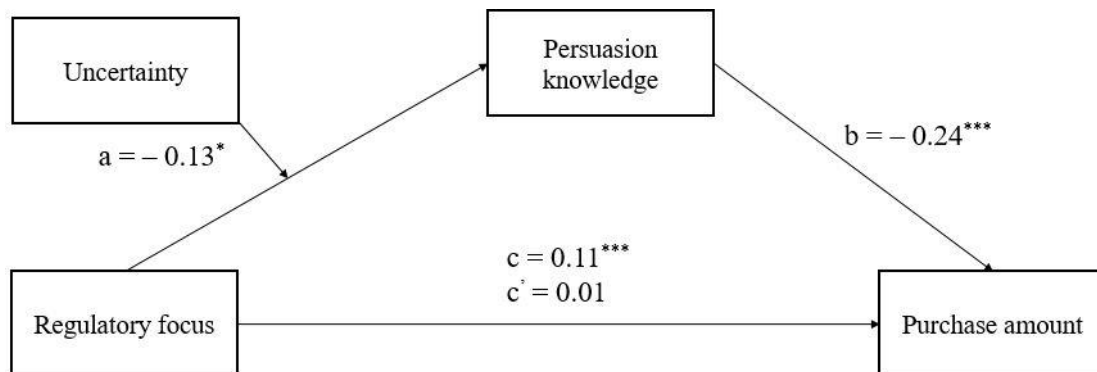
focus is coded as 1 and prevention focus is coded as 0. The high uncertain deal condition is coded as 1 and the low uncertain deal condition is 0.

For participants choosing to use the deal, a two-way ANOVA (regulatory focus x uncertainty level) indicates a significant interaction effect between regulatory focus and uncertainty of deal on persuasion knowledge ($F(1, 368) = 7.91, p = .005$). The planned contrast further reveals that under low uncertainty condition, prevention-focused participants showed significantly higher level of persuasion knowledge than promotion-focused participants ($M_{promotion} = 2.27, M_{prevention} = 2.95, F(1, 368) = 14.70, p = .000$), and under high uncertainty condition, prevention-focused participants showed even more significantly higher level of persuasion knowledge than promotion-focused participants ($M_{promotion} = 2.76, M_{prevention} = 4.11, F(1, 368) = 67.02, p = .000$). More importantly, prevention-focused participants showed significantly higher level of persuasion knowledge for high uncertain deal than low uncertain deal ($F(1, 368) = 44.98, p = .000$). Promotion-focused participants also showed significantly higher level of persuasion knowledge for high uncertain deal than low uncertain deal ($F(1, 368) = 8.37, p = .004$). The significant main effect of uncertainty shows that participants had significantly higher level of persuasion knowledge in high uncertain deal condition than low uncertain deal condition ($M_{high} = 3.41, M_{low} = 2.59, F(1, 368) = 36.77, p = .000$). These results confirm H3.

We used Hayes PROCESS 3 Model 7 to test the moderated mediation effect for using the MinPR deal condition only (Hayes, 2017). With uncertainty as moderator, bootstrapping with 10,000 resamples reveals a significant moderated mediation (index = 8.39, SE = 3.53, 95% CI = [2.32, 16.30]). The indirect effect of regulatory focus on expenditure through persuasion knowledge was significant in low uncertainty condition ($\beta = 8.34, SE = 3.17, 95\% CI = [3.35,$

15.57]), and also significant in high uncertainty condition ($\beta = 16.73$, $SE = 4.57$, 95% CI = [9.10, 26.73]) (Figure 6).

Figure 6. Study 3: Moderated Mediation Of Deal Uncertainty In Accepting MinPR deal Condition



Notes – ***: $p < .001$, **: $p < .01$, *: $p < .05$

- Regulatory focus: promotion focus = 1, prevention focus = 0; high uncertainty = 1, low uncertainty = 0.
- a is the coefficient of the interaction effect of regulatory focus and uncertainty on persuasion knowledge; b is the coefficient of persuasion knowledge on expenditure; c is the coefficient of regulatory focus on expenditure; c' is the coefficient of regulatory focus on expenditure when regulatory focus, persuasion knowledge and interaction between regulatory focus and persuasion knowledge are included in the regression on expenditure.
- Index of moderated mediation: $\beta = 8.39$, $SE = 3.53$, 95% CI = [2.32, 16.30].
- Indirect effect in low uncertainty condition: $\beta = 8.34$, $SE = 3.17$, 95% CI = [3.35, 15.57].
- Indirect effect in high uncertainty condition: $\beta = 16.73$, $SE = 4.57$, 95% CI = [9.10, 26.73].

Discussion

The results of Study 3 confirm H1, H2 and H3. When consumers accepted a MinPR deal, promotion-focused participants spent significantly more than their prevention-focused

counterparts. When consumers did not accept a MinPR deal, their expenditure was much less with almost no difference between the two regulatory focus conditions.

Moreover, similar to the findings of Study 2, the significant indirect effect from regulatory focus to persuasion knowledge to expenditure when using the MinPR deal demonstrates the psychological mechanism of such effect. Furthermore, Study 3 tested the moderating effect of uncertainty of deal. Prevention-focused consumers are more engaged with persuasion knowledge than promotion-focused consumers when the deal is framed in a normal low uncertain way. However, when the deal benefit is framed as highly uncertain, it raises the persuasion knowledge level of prevention-focused consumers even much more. Promotion-focused participants also showed significantly higher level of persuasion knowledge for high deal uncertainty than low deal uncertainty. We can conclude that framing deals as uncertain makes both promotion- and prevention-focused consumers more suspicious towards the deal setting and more sensitive towards the manipulative intent, but uncertainty has a more profound effect on prevention-focused consumers on persuasion knowledge.

2.6. General Discussion

The aim of this research is to examine consumer purchase behavior after using a MinPR deal. We examine the role of consumer motivational orientation (i.e., regulatory focus) on their purchase behavior after being exposed to a MinPR deal. Our findings show that a promotion focus motivates consumers to spend much more than a prevention focus when consumers choose to use a MinPR deal. However, if consumers decide not to use such deal, their expenditures are not much different (Studies 1 and 2). Moreover, the findings show that a consumer's decision to use or not to use the deal is not affected by regulatory focus. The research further finds that the reason for this effect is that prevention-focused consumers have higher levels of concerns and suspicion towards the deal, and such persuasion knowledge limits

their expenditure (Study 2). Finally, the research shows that deal uncertainty moderates the effect of regulatory focus on persuasion knowledge in deal usage condition but not on expenditure, such that high uncertain deals increase the persuasion knowledge level significantly than low uncertain deals for both promotion- and prevention-focused consumers (Study 3).

2.6.1. Theoretical Implications

Overall, this research makes several important contributions to the literature. First, this research extends the understanding of deals with a condition that requires consumers' efforts to redeem the benefit by using the theory of regulatory focus, which has not much been used in the sales promotion field. Most of the past research about deals with a condition derives from consumer characteristics or modelling with real data to measure the exact effect on revenue boost (e.g., Blattberg & Neslin, 1990; Van Heerde et al., 2003). Furthermore, research about MinPR derives from the counterfactual thinking and anchoring effect perspectives (Wansink et al., 1998; Yoon & Vargas, 2011). These two theories focus more on the threshold but not about consumer's character and goal orientation. Regulatory focus theory is consumer-oriented, which improves the understanding of the effect of MinPR deal on consumers' expenditure by suggesting that consumer's goal orientation before shopping significantly influences the effectiveness of MinPR deal. The results may be generalized to other deals with a condition to redeem the benefit.

Moreover, we suggest the reason of why prevention focus spends significantly less than promotion focus when both choose to use a MinPR deal is persuasion knowledge, i.e., prevention focus has a stronger suspiciousness towards the deal and manipulative motive by businesses than promotion focus. Persuasion knowledge has been much used to explain the effectiveness of free gift, pricing tactic and advertising (e.g., Hardesty, Bearden, & Carlson,

2007; Nelson & Ham, 2012; Park & Yi, 2019), but not used to explain the effect of regulatory focus on purchase decision. Related with regulatory focus, persuasion knowledge extends the understanding of MinPR deal effectiveness, which is through the prevention focus' increased level of persuasion knowledge.

Lastly, we investigated a boundary condition of uncertain deal benefit setting. Deals with conditions are frequently used in combination with uncertain benefits. In marketing, surprise deals are popularly used, such as mystery boxes, e.g., Armani Christmas calendar 2022, Bobbi Brown 12-day advent calendar box etc., and chance to win free giveaways such as Instagram like and/or comment to win, photo caption contest, tag a friend etc. Past research about uncertain deals derives from risk aversion versus prospect theory (e.g., Gao & Jung, 2020; Halamish et al., 2008), which may be limited to apply to the thriving usage of uncertain deals now. By linking the uncertainty with MinPR deal, we extend the understanding of MinPR deal effectiveness by suggesting that uncertain deals are more influential to prevention-focused consumers. This research shows that regulatory focus can interact with deal uncertainty and influence consumer's persuasion knowledge, which finally leads to expenditure.

2.6.2. Managerial Implications

MinPR is a popular promotion strategy in a retail context (Yoon & Vargas, 2010). This research provides clear insights for retailers and marketing practitioners. The findings suggest that regulatory focus influences a consumer's expenditure once they have accepted a MinPR deal.

Furthermore, the findings indicate that retailers may need to consider consumers' regulatory focus in order to further boost revenue via MinPR deals. Consumers' purchasing history (e.g., product attributes of past purchases) and search history (e.g., the wording consumers use) can help retailers identify the consumers' regulatory focus (Ghiassaleh et al.,

2020). They can consequently offer an appropriate message advertising a MinPR deal according to the consumer's regulatory orientation. For example, a deal message with social identity norm information is an effective tool for increasing the amount spent by prevention-focused consumers. Marketers can also temporarily activate a promotion focus by presenting promotion-focused cues in advertisements, as performed in Study 1. Moreover, product categories also influence consumers' regulatory focus; for example, jewellery products elicit a promotion focus, while products such as helmets and insurance activate a prevention focus (Micu & Chowdhury, 2010). The present research suggests that MinPR deals are more effective when shopping for promotion- (vs. prevention-) focused products.

The results of this research may be generalized to other conditional deal techniques with requirement-attached characteristics (such as loyalty points, bonus packs, coupons and subscriptions for a special discount) because conditional deal techniques have the same potential goal-evoking function as a MinPR deal. This can influence the behavior of consumers when they are sensitive to external cues (Lee & Ariely, 2006). An example of this is the following loyalty point deal: "After reaching 120 released points you will automatically receive a £15 loyalty voucher code to use on your next Clarins.com order" (Clarins, 2021). Even if both groups choose to use the same deal, promotion-focused consumers will spend much more than prevention-focused consumers. When marketers design a promotional campaign that focuses on requirement-attached benefits, they could make more efforts to attract and communicate with promotion-focused consumers, as they take an eagerness-and-exploratory approach when using the deal.

2.7. Directions For Future Research

Future research could focus on the gap-filling products that consumers choose to reach a MinPR. In this research, consumers first did some shopping, then they were presented with a

MinPR deal message, and then they decided if they wanted to use the deal by adding more items to the shopping cart. The data on consumers' choices for post-MinPR-deal-message shopping were quite diverse and inadequate for analysing the products that consumers selected to reach the requirement of the MinPR deal. The feature of gap-filling products for prevention-versus promotion-focused consumers can suggest the most appropriate items for consumers with a specific regulatory focus when these consumers choose to use a MinPR deal. A consumer's mental account of a shopping trip may also affect their response to a MinPR deal; for example, if a consumer normally spends an average of £30 in a health and beauty store, a MinPR deal of *£10 off on orders over £50* could be more effective than *£25 off on orders over £100* even though the latter deal has a greater discount than the former deal. Future research could also examine the effect of mental accounting in designing MinPR deals.

Moreover, future research also needs to specify the decision-making factors that influence whether consumers use a deal. In this research, all the studies show that the likelihood of using a MinPR deal is almost the same for promotion and prevention focus conditions. Future research could build on the current findings and investigate the factors that may increase the possibility of using a MinPR deal.

Appendix For Chapter 2.

Appendix 1: Study 1: Advertisement To Prime Regulatory Focus

Promotion Focus



Our lemon soda brings you great energy.

Our Assam lemons make the drink taste great and refresh your mind.

Prevention Focus



Our lemon soda helps you avoid cardiovascular issue.

Our Assam lemons can reduce the risk of some cancers and heart disease.

Appendix 2: Study 3: Sales Message

A: Low uncertainty of deal




B: High uncertainty of deal



Appendix 3: Shopping Cart Page:

A: Low uncertainty of deal:

My cart Continue Shopping >

 <p>2 in 1 Antibacterial Wipes For Hands & Surfaces Dettol 15 Wipes £1.45</p>	<input type="text" value="1"/>	£1.45	×
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Enter a promo code

Add note link

Order summary

Subtotal	£1.45
Shipping	FREE
<u>England, United Kingdom</u>	
Total	£1.45

Checkout

Secure Checkout


THE MORE YOU SPEND, THE MORE YOU SAVE.

£5 OFF ON £50 SPEND (promo code: 5)
£15 OFF ON £100 SPEND (promo code: 10)
£40 OFF ON £200 SPEND (promo code: 20)

Enter the promo code to use the discount !

B: High uncertainty of deal:

My cart Continue Shopping >

 <p>2 in 1 Antibacterial Wipes For Hands & Surfaces Dettol 15 Wipes £1.45</p>	<input type="text" value="1"/>	£1.45	×
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Enter a promo code

Add note link

Order summary

Subtotal	£1.45
Shipping	FREE
<u>England, United Kingdom</u>	
Total	£1.45

Checkout

Secure Checkout

THE MORE YOU SPEND, THE MORE YOU SAVE.

Surprising deal today: UP TO £100 OFF!!!

£???? OFF ON £50 SPEND (promo code: 50)
£???? OFF ON £100 SPEND (promo code: 100)
£???? OFF ON £200 SPEND (promo code: 200)

Enter the promo code to find out the surprising discount you can get!

Chapter 3: The Interaction Effect Between Personality Traits And Symbol Usage On Consumer's Consideration Set In Online Shopping

3.1. Introduction

Around black Friday or Christmas, millions of consumers start the annual shopping season by browsing shopping websites at their spare time and adding items to the shopping cart. You may notice a subtle difference that some shopping websites show a check mark when clicking on the wanted attributes in the filter (e.g., Harrods.com), while some other websites show an X mark when clicking on the wanted attributes in the filter (e.g., fashion brand “& Other Stories”, stories.com). Will such subtle difference in symbolic marking influence consumers with different personality to form consideration set? Does the size of consideration set depend on individuals' personality and instruction cues (such as symbolic marking) by marketers? To address this question, the current research explores whether the size of consideration set is influenced by symbol usage and personality in online shopping context.

Prior research of consideration set has investigated the determinants of consideration set from the economic perspective (Hauser, Urban, & Weinberg, 1993; Roberts, 1989), information-processing perspective (Gensch & Ghose, 1992; Hauser, 2014; Lynch & Srull, 1982), and personal perspective (Barone, Fedorikhin, & Hansen, 2017; Divine, 1995; Paulssen & Bagozzi, 2005; Pham & Chang, 2010). Past research of information-processing perspective divides the consideration set formation as stimulus-based and memory-based choice context (Barone et al., 2017; Lee, 2002), which suggests that consumer use different information processing strategies to construct consideration set such as inclusion/exclusion strategies, elimination by attributes, aspects or cut-offs to form consideration set (e.g., Goodman & Reczek, 2021). However, consumer researchers have yet to examine how the instructions of symbol usage (environmental factor) and personality (individual factor) may

shape consideration set in online shopping context. The present research focuses on this gap, and tries to answer the research questions: RQ1: *Will symbolic marking and personality influence a consumer's consideration set size?* RQ2: *How does symbolic marking interact with personality to influence the consideration set size?* To understand this issue is important because marketers invest much money to make consumers remember their product and put the items into their consideration set. To understand how consumer characteristics and marketer instructions can influence consumers' consideration set helps targeting at the consumer segments with appropriate advertisement. Our research joins the consideration set literature by trying to understand the shaping of consideration set, such as why consumers input the similar products to their consideration set (Robberts & Lattin,1991).

To understand how being instructed to use different symbolic markings (check vs. X mark) and consumer's personality influence consideration set size, we focus on the personality of neuroticism and openness and base on the priming effect elicited by symbolic markings (Yoon & Vargas, 2018), and propose that being instructed to use check mark when shopping leads to larger consideration set size than X mark, consumers high in neuroticism construct a smaller consideration set than those low in neuroticism, consumers high in openness construct a larger consideration set than those low in openness because neuroticism has negative effect on perceived value but positive effect on perceived risk, and openness has only positive effect on perceived value (Watjatrakul, 2016). Furthermore, we also propose that using X mark will make the consideration set size of consumers even smaller for the consumers high in neuroticism, while using check mark will make the consideration set size even larger for consumers high in openness, because check marks prime good associations and make people more agreeable towards controversial social policies, issues and marketing survey items while X marks prime the opposite and make people less agreeable to the same items (Yoon & Vargas,

2018), and such priming effects are strong enough to influence consumers judgment and enlarge the effect of personality on consideration set size.

This research extends the understanding of consideration set in three ways. First, we demonstrate an external cue that can influence the consideration set formation, symbolic markings, which is not covered in the past research about consideration set. This research sheds light on how marketers can instruct consumers to use different symbolic markings in order to achieve larger consideration set size during shopping. Second, in addition to the economic and information-processing perspectives, we derive from consumer's psychological perspective, which is personality traits, specifically how neuroticism and openness influence consideration set size. We demonstrate that personality can influence consideration set construction. Third, we further find that the internal factor (personality traits) can interact with external factor (symbolic markings), which enriches the understanding of the formation of consideration set.

3.2. Literature Review

3.2.1. Consumer Decision Making In Consideration Set

A consideration set is the brands or products left after a person has narrowed down his/her choices based on personal screening criteria (Hauser, 2014). Consideration set is important for consumers as there are too many alternatives in the market, but consumers normally do not have the time, efforts, or willingness to assess all the alternatives, and thus, they use a screening-out heuristic method to include a few options into their "consideration set" for the final purchase (Shocker et al., 1991). To understand the effect of symbolic markings on the formation of consideration set, we base our predictions on two-stage choice model (Abougomaah et al., 1987; Moe, 2006), which suggests that people use a two-stage choice

strategy with varying decision rules at each stage to make choices out of many alternative brands in the market.

Parkinson and Reilly (1979) first introduced the two-stage choice model. According to the model, consumers decide which brands to consider in the first stage, that is, to form a consideration set out of the numerous alternatives in the market by applying a decision choice heuristic, and when a purchase situation arises, consumers move to the second phase, which is to compare the remaining brands in the consideration set (Belonax & Mittelstaedt, 1978; Brisoux & Laroche, 1981; Parkinson & Reilly, 1979). Then, Abougomaah, Schlacter, and Gaidis (1987) suggested that in the first stage of the two-stage choice model, people use situational features to reject many brands to get into consideration set. The “rejection variables” are situational factors, such as the availability of products, salesperson’s recommendation, and budget limit. In the first stage, consumer’s goal is to reduce large universal set of products, so consumers mainly apply simplified decision rule to form a subset of product for further judgment (Moe, 2006). At this stage, consumers do not need to be highly accurate to make a right choice but need to be quickly form a consideration set (Moe, 2006).

Then, in the second stage, consumers use different variables than those used in the first stage to make purchase set (Abougomaah et al., 1987). The “purchase variables” are intrinsic product factors, such as product features, style, warranty, quality, brand name, which help consumers to make a final purchase choice (Abougomaah et al., 1987). Consumers use effortful rule, or compensatory rule, to make decision at this stage, because they need the accuracy to be much higher than in the first stage. The next section will discuss how symbolic marking influences the formation of consideration set.

3.2.2. The Effect Of Symbolic Markings

Check (✓) and X marks are frequently used for responding to questionnaires, for example, placing a check or X mark next to or over the answer. The check and cross marks are commonly used in marketing as well, for example to indicate benefits of business, to compare features in a comparison table, and to indicate consumer’s choice (Fsymbols, 2010; Moran, 2017; Stack Exchange, 2021). Figure 1 is an example of the usage of check and X marks in comparison table in marketing (Wren Kitchens, 2022).

Figure 1. Wren Kitchens Price Comparison Table

KITCHEN COMPARISON TABLE

B&Q	Magnet		Wickes
	WREN	B&Q	
Fully Assembled Kitchen Units ⓘ	✓	✗	
Flat Pack Kitchen Units Available ⓘ	✓	✓	
Manufactured & Factory Assembled in the UK ⓘ	✓	✗	
Cabinet Guarantee ⓘ	Up to 25 Years	Up to 25 Years	
Installation Service ⓘ	✓	✓	
FIRA Gold Award For Installation ⓘ	✓	✗	

Such markings are not meaningless – they are symbolic marks that can serve as primes (Yoon & Vargas, 2018). To explain the influence of symbolic markings on consumer’s judgement, situated inference model (SIM) argues that symbolic markings can prime different associations, and such primes can increase the accessibility of particular concepts, but

consumers misattribute these newly accessible primed concepts to their own thoughts or feelings (Loersch & Payne, 2011, 2014; Yoon & Vargas, 2018). Because of the misattribution to self, consumers use the newly accessible primed thoughts or feelings to guide their judgment, behavior, or goal depending on different situations (Loersch & Payne, 2014). People associate check marks with good and X marks with bad and these mental associations have downstream consequences: people who make positively connoted check marks are more agreeable toward marketing survey items compared with people who make negatively connoted X marks (Yoon & Vargas, 2018). The symbolic marking is a unique biasing factor in decision-making process that makes consumers to respond to the same information differently.

However, check and X marks are simple symbolic markings that are rarely studied in marketing activities but have the potential to be an influential factor in changing consumers' decision making and purchasing behavior, which is often neglected (Yoon & Vargas, 2018). To fill in the gap of the effect of symbolic marking on consumer decision making and behavior, we suggest that when consumers are instructed to use either check or X marks to select items in shopping, check and X marks can influence consumer's consideration set formation. Based on situated inference model, consumers would be primed with positive associations and the tendency to agree by check marks or negative associations and the tendency to disagree by X marks, and they misattribute these feelings and thoughts to their self, which consequently guides their consideration set formation in shopping (Yoon & Vargas, 2018). Consideration set is an important concept in two-stage choice model, which will be explained in the next section.

How does the symbolic markings influence consumer behavior in the two-stage choice model? We suggest that the check and X marks mainly influence consumers in the first stage by influencing the formation of consideration set, but not influence consumers in the second stage. In the first stage, symbols can influence consideration set formation in the first stage because symbol is a conspicuous situational feature in marketing communication in the

shopping process (Bird, 2004). Check marks carry more positive associations and X marks carry more negative associations. Positive associations are inconsistent with the act of rejecting many brands in the first stage (Abougomaah et al., 1987). Check marks make people tend to be more agreeable to the marketing survey items when other information is constant (Yoon & Vargas, 2018). Because of the inconsistency between “rejection” and the tendency of being agreeable, consumers tend to leave more items/brands in the first stage when using check marks to add items to consideration set to shopping cart.

To contrast, negative associations triggered by X marks prime people with the concepts of “bad” and “disagreeable”, which can be misattributed to consumers own feelings and thoughts that guide their subsequent judgment and behavior (Yoon & Vargas, 2018; Loersch & Payne, 2014). The primed feelings and thoughts of negative association and the tendency to disagree are consistent with the goal of rejection and reduction of large universal brands in the first stage (Moe, 2006), because to reject is close to disagree. Moreover, the misattributed negative association to self makes consumers to hold a negative and critical feeling towards the alternatives, which decreases their tendency to involve items but increases their tendency to reject items. Thus, based on the consistency with the goal of “rejection” in the first stage and the negative associations, using X marks to select items would leave fewer items in the consideration set compared with using check marks to choose items in the first stage. To conclude, using check marks elicits a larger consideration set than using X marks when other information being constant. We therefore propose:

Hypothesis 1: Using check marks to make selection in shopping leads to larger consideration set than using X marks in shopping.

3.2.3. Personality Traits: Neuroticism And Openness

Personality traits reflect what people value, prefer and what motivates them (Harris & Lee, 2004), and personality is usually stable over time and shows a core of consistency defining the true nature of an individual (Ajzen, 2005). The existing literature of personality traits in marketing has focused on the effect of personality on consumer complaining behavior (Souiden et al., 2019), green purchasing behavior (Fatoki, 2020), ecological consumer behavior (Fraj & Martinez, 2006), sustainable consumption (Onel et al., 2018), online customer engagement and perceived value (Marbach et al., 2016), retail purchasing channel (Hermes & Riedl, 2021), consumer's brand preference (Banerjee, 2016), and impulsive and compulsive purchasing (Moon et al., 2015; Shahjehan et al., 2012; Shehzadi et al., 2016; Youn & Faber, 2000). The existing studies mostly investigate the effect of personality traits on final purchase intention, preference, or choice, but less attention has been given to the process of consumers decision making, in particular, the effect of personality traits on consideration set. We try to fill in the gap of the effect of personality traits on consumer decision making process by focusing on neuroticism and openness from the Big Five personality traits model (Goldberg, 1990) because these traits are most relevant with consumer decision making in shopping.

Big Five is one of the most widely applied personality instruments in psychology (Goldberg, 1990). The Big Five Factors are extroversion/introversion, agreeableness/disagreeableness, conscientiousness, neuroticism (emotional stability), and openness to experience (Goldberg, 1990). Extroversion and agreeableness are not closely linked with shopping but interpersonal relationship because extroversion explains the tendency of being social, assertive, outgoing and helpful to other people (McCrae & Costa, 1985) and agreeableness explains the tendency of an individual to be warm compassionate, generous, cooperative and in social harmony (McCrae & John, 1992). Conscientiousness is not closely related to the shopping process and outcome because it is about responsibility, organisation,

self-discipline, eagerness to follow rules and future-orientation by an individual (McCrae & Costa, 1985) – conscientiousness is about how things are done and organized which is hard to be influenced by the external cues in shopping. Neuroticism and Openness are most related to shopping as they are about the emotional swings and sensitivity of external information (McCrae & Costa, 1985), which can influence their decision-making process.

Neuroticism is used to describe an individual's emotional stability. David et al. (1997) claimed that neurotic individuals are often easily frustrated and tend to be hypersensitive to negative events. In addition, Molleman et al. (2004) and Van Vianen and De Dreu (2001) found that individuals who are low in neuroticism are self-confident. While decision makers can form a consideration set from a choice set using one of two strategies: including the options they wish to further consider or excluding those they do not wish to further consider from all alternatives (Goodman & Reczek, 2021), it is expected that individuals high in neuroticism will be easily frustrated when something goes wrong and tend to avoid negative events and thus believe that excluding items from alternatives can help avoid possible mistakes and negative outcomes in later stage. In other words, the tendency toward emotional instability may reduce a neurotic individual's intention to include many items to the consideration set.

On the other hand, characteristics such as creativity, broad-mindedness, and willingness to experiment or to try new things have been used to describe individuals who are high in openness (Lepine, 2003; Molleman et al., 2004). Including the items to the consideration set fits the receptive mind-set of openness, and they prefer to accept rather than reject the holding of intolerant thoughts (Butrus & Witenberg, 2013). Thus, it is expected that people high in openness will have a tendency to use the including strategy for consideration set by including much more items to the consideration set than people high in neuroticism.

In addition, Roesch et al. (2006) suggested that individuals who are high in openness are more flexible and creative and thus may be better able to try a number of coping strategies. Online shopping is different from off-line shopping such that most online consumers use information gathered online to make purchases off-line and they use online search to learn the goods, and thus online shopping can generate items left in shopping cart (the consideration set) but not move into the check-out stage (Bhatnagar & Ghose, 2004; Forsythe & Shi, 2003). Since including items to the consideration set is consistent with the broad mindedness and tolerance, it is expected that individuals who are high in openness will have higher levels of intention to include rather than exclude from all alternatives.

Moreover, these personality traits have differential effect on perceived risk and perceived value for the online knowledge payment (Ge & Li, 2020). Specifically, neuroticism has a negative effect on perceived value but a positive effect on perceived risk, which means people high in neuroticism decrease the perceived value for the online knowledge payment but increase the perceived risk for it. On the other hand, openness has only positive effect on perceived value, which means people high in openness only increase the perceived value for the online knowledge payment (Ge & Li, 2020). Since perceived value has positive effect on purchase intention while perceived risk has negative effect on purchase intention, we therefore suggest that neuroticism leads to higher perceived risk and lower perceived value for the products in online shopping and thus including fewer items to consideration set while openness leads to higher perceived value for the products and thus more intention to include more items to consideration set. Thus, we propose:

Hypothesis 2a: Consumers high in neuroticism construct a significantly smaller consideration set than those low in neuroticism when other personality traits being constant.

Hypothesis 2b: Consumers high in openness construct a significantly larger consideration set than those low in openness when other personality traits being constant.

3.2.4. The Interaction Effect Between Personality And Symbolic Marking

We propose that there is an interaction effect between personality traits and symbolic markings on consideration set size. The symbolic markings influence consumers by activating the priming effect (Yoon & Vargas, 2018), and the likelihood of priming effect may be affected by the different level of sensitivity for information of personalities.

We suggest that consumers high in neuroticism personality are less susceptible to the priming effect activated by symbolic markings. Neuroticism is associated with withdrawal behaviours, and the inward worrying focus (Gill, Harrison & Oberander, 2004). For individuals who are high in neuroticism, more resources are devoted to inner thought and fewer interaction with the environment (Gill et al., 2004). Thus, we might expect that individuals high in neuroticism will coordinate less with external cues and less susceptible to the priming effect activated by the symbolic markings.

The existing literature has investigated the interaction effect between neuroticism personality and priming effect. Gill et al. (2004) found a complex relationship between neuroticism and structural priming strength in language processing: individuals of low and high scoring in neuroticism primed less than individuals in the middle group (Gill et al., 2004). The results showed that individuals scoring high on the neuroticism scale may have a more inward focus than the middle group, making the high group less likely to be primed by other people's language.

When it comes to the respective priming effect of check and X mark, the proneness to anxiety, worry and self-consciousness by neuroticism is consistent with the negative

associations and rejection primed by X marks, rather than the positiveness and agreeableness primed by check marks. In addition, neurotic individuals are often easily frustrated and have a tendency to be hypersensitive to negative events (Picazo-Vela et al., 2010), which means they are sensitive to the negative external cues and decision making habits. Based on the above rationale, we propose that even consumers high in neuroticism is less susceptible to the priming effect activated by symbolic markings in general, but specifically, they are more susceptible to the priming effect activated by X marks rather than check marks, and thus, enlarging the effect of X marks (rather than check marks) on consideration set size.

In terms of the personality of openness, we suggest that consumers high in openness personality are more susceptible to the priming effect activated by symbolic markings. Openness to experience concerns people's willingness to try new things, ability to be vulnerable and to think outside the box (Flynn, 2005). An individual who is high in openness is likely to be someone who loves learning and engages in creative career or hobby and likes meeting new people (Business Insider, 2016). An individual who is low in openness prefers routine over variety, sticks to what s/he knows, and prefers less abstract entertainment (Flynn, 2005). A consumer high in openness would be more likely to engage with external cues and love to be inspired by variety, and thus, s/he is more likely to be influenced by the priming effect activated from external environment.

Only a handful of studies investigated the relationship between personality and priming effect (Gill et al., 2004; Horton, 2014; Weatherholtz, Campbell-Kibler & Jaeger, 2014). Individual differences in structural priming magnitude can be partially attributed to personality traits. In Gill et al.'s (2004) study, no relationship between structural priming and the personality of extraversion was found, although this trait intuitively relates more to social behaviours. Openness is different with extraversion because openness focuses more on broad-

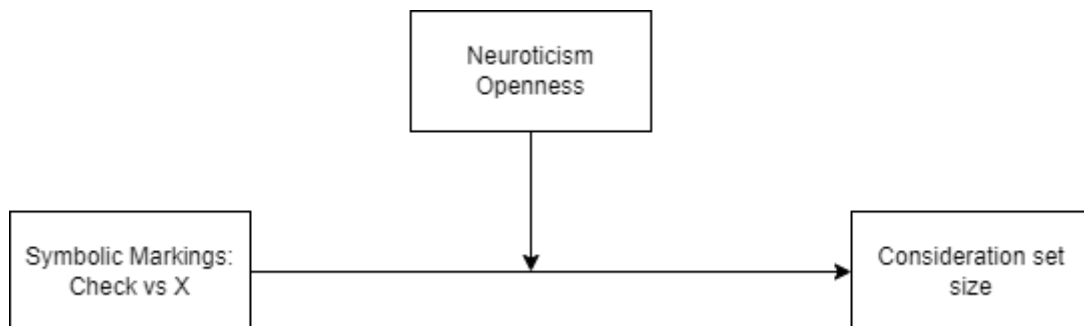
mindedness and willingness to try new things. We suggest that openness can interact with symbolic marking to influence consideration set size.

When it comes to the respective priming effect of check and X mark, the explorative and receptive mind-set of openness to experience is consistent with positive associations and agreeableness primed by check marks, but not consistent with negative associations and rejection primed by X marks. Thus, using check marks has stronger influence on the decision making of consumers of high openness. Based on the above rationale, we propose that consumers high in openness are more susceptible to the priming effect activated by symbolic markings in general, but specifically, they are more susceptible to the priming effect activated by check marks rather than X marks, and thus, enlarging the effect of check marks (rather than X marks) on consideration set size. The conceptual framework is in Figure 2. Thus, we propose that:

Hypothesis 3a: Using X mark will make the consideration set size even smaller for consumers high in neuroticism.

Hypothesis 3b: Using check mark will make the consideration set size even larger for consumers high in openness.

Figure 2. Conceptual Framework



3.3. Method

In this research, the three hypotheses are tested across two studies. The pilot test checks the feasibility of manipulating symbolic markings and duration of the experiment. In Study 1, the symbolic marking (using check vs. X marks to select items to the shopping cart) is manipulated. The study shows that using check marks to make selection in shopping leads to larger consideration set than using X marks in shopping (Hypothesis 1). In addition to manipulate the symbol usage, Study 2 measures the personalities of neuroticism and openness and shows that consumers high in openness construct a significantly larger consideration set than those low in openness when other personality traits being constant (Hypothesis 2b), but consumers high in neuroticism do not construct a significantly smaller consideration set than those low in neuroticism when other personality traits being constant (Hypothesis 2a). Moreover, Study 2 also shows that using check mark makes the consideration set size even larger for consumers high in openness (Hypothesis 3b), but using X mark does not make the consideration set size even smaller for consumers high in neuroticism (Hypothesis 3a).

Pilot test.

Method

We first conducted a pilot test, a small-scale preliminary study to evaluate feasibility and duration of the experiment. In this pilot test we wanted to examine whether the usage of check or X mark could actually lead to different consideration set size. Sixty graduate students from the course Global Marketing from a university in the north-eastern UK participated in the study in exchange for course credits (44 females; $M_{age} = 24.13$). The survey instrument was operationalized and delivered through Qualtrics. The average completion time is 6.65 minutes.

First, participants were instructed to use either check or X mark to select items to add to the shopping cart in a simulated online juice store which provides 25 different types of drinks in 5 categories (organic juice, sugar free juice, vegan juice, gluten free juice, and low-fat juice) without showing the category labels. It is similar to the setting of juice section of a British retail chain store, Tesco (Tesco, 2022). When participants clicked on a chosen item, the corresponding mark (check or X) would be highlighted and showed up at the selected item. Participants can select as many items as they would consider buying. Next, they were asked to make their final choice by choosing just one item. Eventually, demographic information such as age, gender and ethnicity were collected.

Results And Discussion

The results show a significant difference of symbol usage on consideration set size ($M_{check} = 7.09$, $M_X = 5.00$, $N_{check} = 32$, $N_X = 28$, $t(58) = 2.16$, $p = .04$).

The results provide initial support for the effect of symbol usage on consideration set size and the feasibility of the experiment. The participants using check mark to shop added significantly more items to the consideration set than those using X mark. In Study 1, we would cover a comprehensive set of attributes that participants can choose from to indicate their oversimplification tendency.

Study 1.

The aim of this study is to test the effect of symbol usage on consideration set size (H1) because it is rarely tested in the literature. We manipulated the participants to use different symbols (either check or X) in shopping and examined their shopping attitude and behavior. We expected that if participants used check marks rather than cross marks to select items to their shopping cart, they would present a larger consideration set at the first stage of shopping.

Method

The study was a single-factorial design (check mark vs. X mark). Two hundred and thirty-one participants were recruited from Amazon Mechanical Turk to complete the study in exchange for standard payment.

First, the participants were asked to imagine they are shopping for juice and were directed to a simulated online juice store which was same as the one in the pilot test. Half of the participants were asked to select as many products as they would consider buying using the cross marks (when they selected a product, there would be a cross mark showing on the button), while the other half of the participants were asked to use the check marks (when they selected a product, there would be a check mark showing on the button). Participants were informed that the "Shopping Cart" button which will appear after 40 seconds, so they had adequate time shopping. Then, their choices in the shopping cart (i.e., consideration set) were displayed, and the participants were asked to choose ONE final choice that they would consider purchasing.

The manipulation check questions asked participants which symbols they used when shopping, and the meaning of check and cross marks to participants. Finally, participants were asked to answer an attention check question (“please select ‘somewhat agree’ in the following options”), familiarity, prior product preference, and demographic questions including gender, age, ethnicity, and English proficiency.

Results

We excluded participants who did not pass attention check questions, which left us with 204 participants (80 females; $M_{age} = 38.03$) in this study.

Manipulation check. The manipulation of check versus X marks was successful because participants in both conditions correctly indicated using their corresponding mark

during shopping ($M_{check} = 1.04$, $M_X = 1.81$, $t(202) = -17.85$, $p < .001$). In terms of the meaning of the check and X mark, 90.2% participants indicated that check mark means correct, and 74.5% participants indicated that X mark means incorrect, which is consistent with our assumptions.

Consideration set size. The results showed a significant difference of symbol usage on consideration set size ($M_{check} = 8.24$, $M_X = 6.79$, $N_{check} = 104$, $N_X = 100$, $t(202) = 2.60$, $p = .01$). The participants using check mark in shopping selected significantly more items to the consideration set than those using X mark.

Discussion

The results of Study 1 further confirm H1. When consumers are instructed to use check or X marks to make selection in shopping, the usage of check mark leads to larger consideration set than the usage of X marks in shopping. The next study is to test H2 and H3.

Study 2.

The aim of this study is to test the effect of personality (H2) and the interaction effect (H3) on consideration set size. We tested the personality traits of the participants and manipulated the participants to use different symbols (either check or X marks) in shopping and examined their shopping cart size. We expect that participants high in neuroticism would lead to smaller consideration set than participants high in openness, and participants high in neuroticism using X marks rather than cross marks tend to present an even smaller consideration set (a smaller shopping cart) while participants high in openness using check marks rather than X marks tend to present an even larger consideration set (a larger shopping cart).

Method

The study is a single-factorial design (check vs. X mark). The symbol usage is manipulated, but since each personality trait is independent and people normally have long-term stable personality, we measure the personality traits. Three hundred and sixty participants were recruited from Amazon Mechanical Turk to complete the study in exchange for standard payment.

First, the participants were asked to imagine they are shopping for juice and were directed to a simulated online juice store which was same as in the previous studies. Half of the participants were instructed to use cross marks to select products that they would consider buying to their shopping cart (when they selected a product, there would be a cross mark showing on the button), while the other half of the participants were instructed to use check marks (when they selected a product, there would be a check mark showing on the button),. Participants were informed that the "Shopping Cart" button which will appear after 40 seconds. The size of shopping cart is the measure of the dependent variable, consideration set size.

Then, participants were asked their personality traits based on a 20-item scale (mini-IPIP)- Big Five factors of personality (Donnellan et al., 2006) which is widely accepted as a smaller form of the International Personality Item Pool (IPIP) consisting 50-items (Goldberg, 1999) – example measures for neuroticism are “have frequent mood swings” “am relaxed most of the time (reverse coded)” and example measures for openness are “have a vivid imagination” “do not have a good imagination (reverse coded)”. Cronbach’s α for each of the Big Five personality traits ranges from 0.80 to 0.85.

Later, participants were asked what symbols they used in shopping and their perception of check and X marks as a manipulation check. Finally, participants were asked to answer

attention check question same as the one in Study 1, familiarity, prior product preference, and demographic questions including gender, age, ethnicity, and English proficiency.

Results

We excluded participants who did not pass attention check questions, which left us with 341 participants (158 females; $M_{age} = 37.33$) in this study.

Manipulation check. The manipulation of check versus X marks was successful because participants in both conditions correctly indicated using their corresponding mark during shopping ($M_{check} = 1.07$, $M_X = 1.84$, $t(339) = 23.00$, $p < .001$). In terms of the meaning of the check and X mark, 89.7% participants indicated that check mark means correct, and 79.2% participants indicated that X mark means incorrect, which is consistent with our assumptions.

Consideration set size. The data were analysed using correlation and regression analysis. The correlation between openness and neuroticism was insignificant ($\beta = -.08$, $p = .15$), which proves that the two personality traits are independent with each other. The regression analysis included the variables of openness, neuroticism, symbol usage, openness x symbol usage, neuroticism x symbol usage, and the control variables (other personality traits, familiarity, prior product preference, gender, age, ethnicity, and English proficiency). The significant variables in the regression are symbol usage ($\beta = .43$, $p = .03$), openness ($\beta = .36$, $p < .001$), symbol usage x neuroticism ($\beta = -.44$, $p < .001$), symbol usage x openness ($\beta = .39$, $p = .01$). The effect of neuroticism is not significant in the regression ($\beta = -.04$, $p = .48$). The results confirm H1, H2b but reject H2a.

The moderation effect of neuroticism and openness was analysed by median split and floodlight test. The participants were then coded as high versus low in openness by the median value of the variable (< 4.22 coded as low, ≥ 4.22 coded as high), and coded as high versus

low in neuroticism by the median value of the variable (< 4.82 coded as low, ≥ 4.82 coded as high). The interaction effects were significant and showed in Figure 3 and 4.

Figure 3. The Interaction Effect Between Symbol Usage And Neuroticism On Consideration Set Size

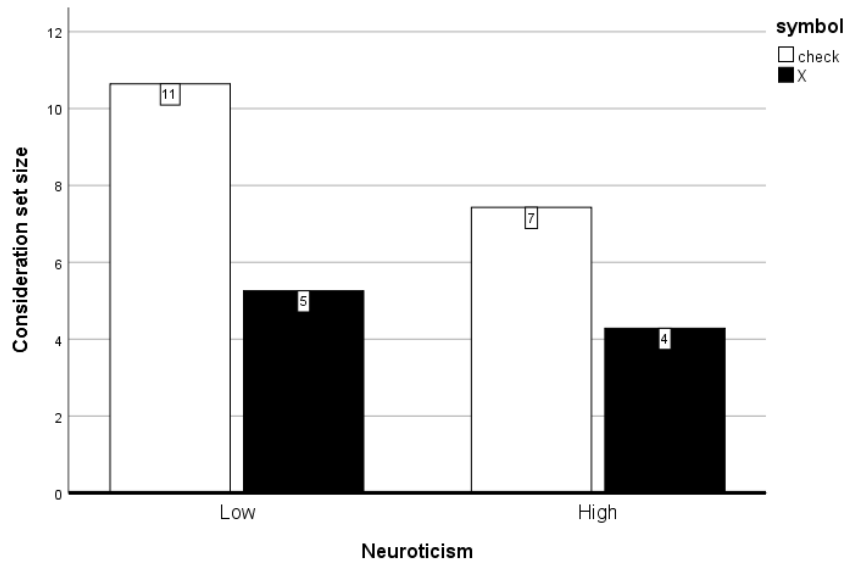
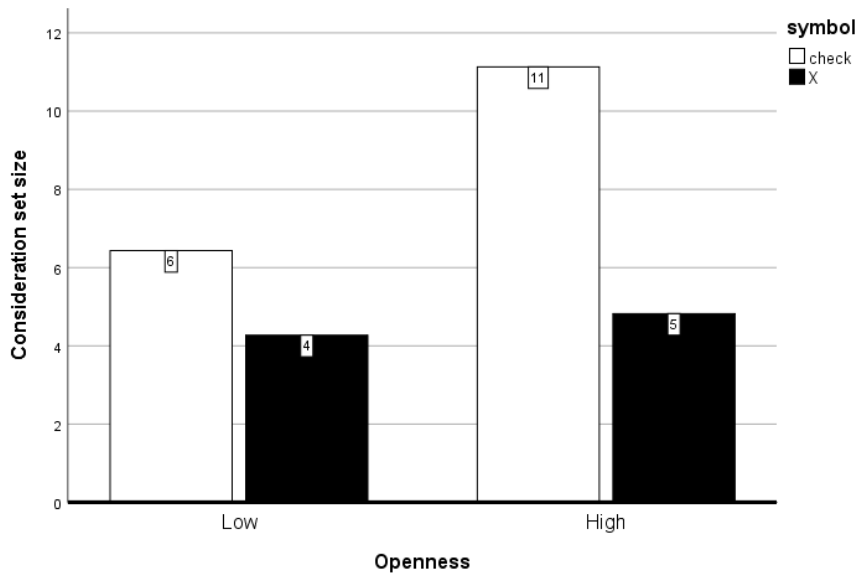


Figure 4. The Interaction Effect Between Symbol Usage And Openness On Consideration Set Size



The planned contrast analysis for neuroticism showed that when participants were instructed to use check marks to select items, those who were high in neuroticism showed significantly smaller consideration set size than those who were low in neuroticism ($M_{high\ neuroticism} = 7.43$, $M_{low\ neuroticism} = 10.64$, $F(1, 337) = 39.77$, $p < .001$). When participants were instructed to use X marks to select items, those who were high and low in neuroticism did not show significant difference in consideration set size ($M_{high\ neuroticism} = 4.28$, $M_{low\ neuroticism} = 5.26$, $F(1, 337) = 2.09$, $p = .15$). Moreover, the planned contrast for openness supported that when participants were instructed to use check mark to select items, those high in openness made significantly larger consideration set than those low in openness ($M_{high\ openness} = 11.13$, $M_{low\ openness} = 6.44$, $F(1, 337) = 95.35$, $p < .001$). When participants were not to use X mark to select items, high and low in openness did not make significant difference in consideration set size ($M_{high\ openness} = 4.82$, $M_{low\ openness} = 4.27$, $F(1, 337) = 1.20$, $p = .27$). These results confirm H3b but reject H3a.

Additionally, to verify the direction of moderation and the region of significance, we used the Johnson-Neyman test, i.e., floodlight analysis (Johnson & Fay, 1950). In this test, we identified that the lower neuroticism or higher openness was, the larger consideration set size would be. The region of significance is lower than 6.63 (on a seven-point scale) of neuroticism, or higher than 3.19 (on a seven-point scale) of openness. The results indicate that for participants with only the highest level of neuroticism (higher than 6.63), neuroticism does not significantly influence consideration set size (see Figure 5). For participants with relatively lower level of openness (lower than 3.19), openness does not significantly influence consideration set size (see Figure 6). The findings support H3b but reject H3a.

Figure 5. Region Of Significance In The Neuroticism Moderation

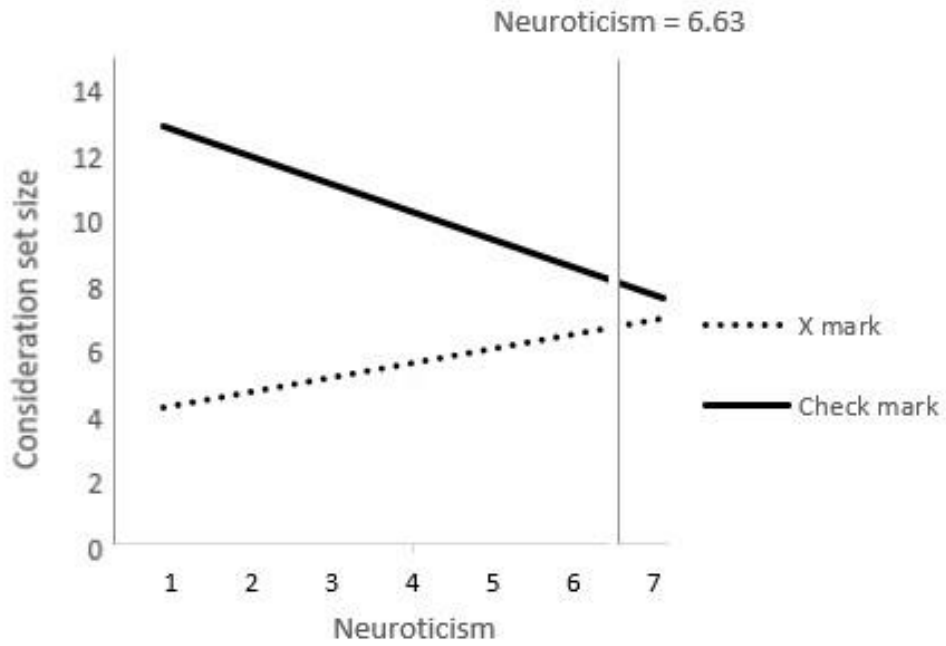
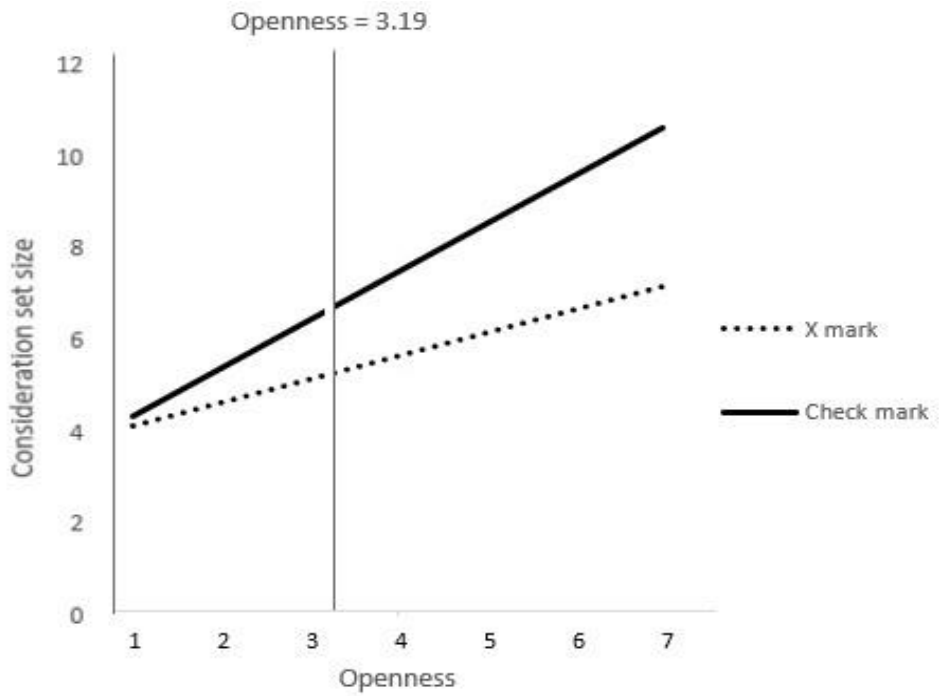


Figure 6. Region Of Significance In The Openness Moderation



Discussion

The results confirm H1, H2b and H3b and reject H2a and H3a. The results show that when participants were asked to use different symbols to make choice, regardless of participants' personality traits, they included significantly more items when using checks than using X marks. Participants high in openness included more items in their consideration set those low in openness, but participants high in neuroticism did not show significant difference in their consideration set size with those low in neuroticism. When participants were instructed to use check marks to select items into their shopping cart, participants high in openness included significantly more items than those low in openness. However, when instructed to use X mark in shopping, the difference between high and low level of neuroticism on consideration set was non-significant.

3.4. General Discussion

This research aims to test the effect of symbol usage and personality traits on consumer choice process. Symbolic markings not only have priming effects on consumers but further influence consumer decision making process in shopping. Specifically, this research tests the effect of check versus X marks and neuroticism versus openness on consideration set size based on priming theory and big five personality model. When instructed to use check marks to add items in shopping, consumers form a significantly larger consideration set than instructed to use X marks (Study 1). Only participants with high openness personality trait put significantly more items than those low in openness, but the participants high in neuroticism did not show significantly more items than those low in neuroticism (Study 2). Eventually, the interaction effect between symbol usage and both personality traits is significant, but only when participants were instructed to use check mark, those high in openness showed significantly larger consideration set than those low in openness; when participants were instructed to use X

mark, those high in neuroticism showed did not show significantly smaller consideration set than those low in neuroticism (Study 2).

3.4.1. Theoretical Implications

Overall, this research contributes to the consideration set literature in three ways. First, this research extends the understanding of consideration set formation from the perspective of external cues. In addition to the current studies about external cues such as salesperson's advice, brand cues and price discount message (Hastak & Mitra, 1996; Nedungadi, 1990), we suggest that the symbols that consumers are instructed to use (check or X mark) when shopping, can also impact on the consideration set size because of the unconscious priming effect. The priming effect has been studied by Yoon and Vargas (2018) by demonstrating that the symbolic marks can influence consumers' judgments accordingly, such that check marks prime more positive associations and thus make people more agreeable while X marks prime more negative associations and thus make people less agreeable. We extend their result by applying their theory to consumer behavior field, specifically how the priming effect of symbolic markings can influence consideration set construction. Our findings may be generalized to other external cues that can activate priming effect, such as colour, smell and sound (music) (Mattila & Wirtz, 2001).

Second, this research extends the understanding of consideration set formation from the consumer's psychological perspective, specifically, personality traits, which is beyond the economic perspective (Hauser et al., 1993; Roberts, 1989) and information-processing perspective (Gensch & Ghose, 1992; Hauser, 2014; Lynch & Srull, 1982). Our research joins the personal perspective (Barone et al., 2017; Divine, 1995; Paulssen & Bagozzi, 2005; Pham & Chang, 2010) in consideration set research by demonstrating the impact of consumers' own traits, i.e., neuroticism and openness, on consideration set size, such that openness broadens

the consideration set but neuroticism does not have effect on the consideration set size. Big five personality theory has been widely used in brand personality, compulsive and impulsive consumer buying behavior, and eco-friendly consumer behavior (e.g., Husnain et al., 2016; Mulyanegara, Tsarenko, & Anderson, 2009). Even though consideration set is linked with impulsive buying, consideration set formation is refined and detailed in the first stage of consumer decision making (Parkinson & Reilly, 1979). Our research further refines the process of personality on consumer buying behavior by emphasizing the influence on consideration set.

Third, the interaction between personality and symbolic markings suggests that the internal consumer's psychological factors can be influenced by the external cues when constructing consideration set. We demonstrate that when using check marks, people who are high in neuroticism showed significantly smaller consideration set size than those who are low in neuroticism, and people who are high in openness made significantly larger consideration set than those low in openness, yet when instructed to use X marks, there is no significant difference.

3.4.2. Managerial Implications

Our research has important managerial implications for marketers. Online shopping is a trend in contemporary business (Kaur, 2013). Consumers first scan the shopping website, and then add the items to the virtual shopping cart, and then are directed to double check and shopping cart items before moving to the final payment step. The results of this research can help marketers to make decision making process easier for their consumers by manipulating the external factors and understanding their consumers' personality. For example, the shopping website can be designed to make consumers use cross marks when they click on items in order to reduce the burden of final purchase decision making, and in turn, lead to higher final purchase rate. On the other hand, if the shopping website would like to attract more impulsive

purchases, marketers can design the shopping website to use check marks in default setting, which would lead to larger shopping cart (consideration set size). But it could potentially backfire as the larger shopping cart may postpone consumers' final purchase due to stronger tendency of choice avoidance (Broniarczyk & Griffin, 2014).

3.4.3. Directions For Future Research

Future research could examine why neuroticism is not a significant factor influencing the size of consideration set. In this research, the effect of neuroticism on consideration set size is not significant, and even though the interaction between neuroticism and symbolic markings is significant, only when instructed to use check marks, those high in neuroticism show significantly smaller consideration set size than those low in neuroticism. When instructed to use X marks to shop, neither personality shows any significant difference in consideration set regardless of the level of neuroticism and openness. The reason could be that neuroticism does not closely relate with consideration set, and future research could further look into this effect. Future research could also focus on the effect of other personality traits on consideration set formation, such as other major personality models, HEXACO model of personality, which includes include Honesty-Humility (H), Emotionality (E), Extraversion (X), Agreeableness (A), Conscientiousness (C), and Openness to Experience (O) (Ashton & Lee, 2007).

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