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"Am I Seeing Double?": Assessing The Impact of Delaying Coupon Benefits. A Quantitative Analysis of Regular Coupons Versus Advertised and Suprise Next-Purchase Coupons

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Management summary

Psychological pricing literature has shed much light on price framing effects, focusing on price promotions directly applicable to the current purchase period, but has thereby largely overlooked promotions that apply to subsequent purchase periods. As exemplified by coupons, the consensus in the economics literature is that next-purchase coupons are inferior to regular coupons as their benefits are received at a later point and thus discounted for time. Recent research by Cheng and Cryder (2018) presents first evidence of the opposite being true based on what they call 'double mental discounting theory'. Namely, consumers exposed to delayed discount benefits tend to deduct these from both the initial and subsequent purchase price, thereby lowering perceived transaction costs and creating the impression of greater savings. Yet they failed to consider the different anticipation levels of next-purchase coupons, which Chatterjee (2007) was the first and only paper to do by comparing advertised and surprise next-purchase coupons, though he did not draw comparisons with regular coupons.

The aim of this study was to provide a complete picture by combining these models – i.e., comparing regular vs. advertised next-purchase vs. surprise next-purchase coupons – studied for a novel outcome and context, namely purchase intent in a two-period fashion retail setting. Additionally, we examine to which extent this relationship is mediated by perceived deal value. In an online experiment with 302 participants fostering hypothetical shopping scenarios, we manipulated the delivery of equivalent coupon benefits to create three treatments as well as the time of decision such that purchase intent is measured for two periods for each subject. The gathered data was then analysed through a two-way mixed factorial ANOVA, PROCESS bootstrapped mediation analyses, and correlation tests.

Our findings show support for next-purchase coupons as an increasingly popular price promotion method in the marketing industry, as opposed to regular coupons. We find that next-purchase coupons generate higher deal value perceptions, but that the surprise offering is only marginally more effective than when advertised. In turn, higher deal value perceptions contribute to increased purchase intent during the promotional period. Hence, perceived deal value is found to mediate the relationship between coupon delivery methods and purchase intent. In period 1, purchase intent is higher for regular than next-purchase coupons, with the opposite being true for period 2. While the advertised method outperforms the surprise offering of next-purchase coupons in period 1, their values for period 2 are indistinguishable. Accordingly, for the two-period model overall, purchase intent is highest for next-purchase coupons, where the advertised offering of next-purchase coupons seems to outperform the surprise offering.

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Introduction

Problem Background

Research into consumer behaviour has made significant advances in understanding the processes that govern decision-making upon entering an economic transaction, especially regarding the psychological aspects of pricing. Due to consumers' behavioural biases, otherwise identical objects are perceived differently based on external cues, which allows managers to manipulate value perceptions without changing the actual price by altering the way the offer is presented (Hinterhuber, 2015). This illustrates the importance of setting the right pricing strategy, as price may determine not only profits or revenues, but also consumer perception and loyalty, and ultimately, a retailer's reputation. Krishna et al. (2002) categorize the causes of these behavioural biases into situational (i.e., under which circumstances is the offer presented?) and price framing effects (i.e., how is the offer communicated?). In the light of our research, we focus on the latter category of which Hinterhuber (2015) has summarized examples, including the price-precision effect, 9-endings, unit effect, price partitioning, decoy effect and scarcity effect (see Thomas et al., 2010; Anderson & Simester, 2003; Pandelaere et al., 2011; Xia & Monroe, 2004; Kivetz et al., 2004; Balachander et al., 2009).

However, we cannot discuss pricing strategies without also considering price promotions, where the primary finding for the standard discount type is that monetary framings are deemed more significant than an equivalent price reduction expressed in percentual terms for high-priced products, while the opposite is true for low-priced products (see Chen et al., 1998; González et al., 2016; DelVecchio et al., 2007). The foregoing discussion, however, implicitly assumes that the price reduction applies directly to the current period, hence suggesting a need to consider the 'what-ifs' for price promotions applied to subsequent purchase periods. The objective of this research is to establish such a model by varying coupon delivery methods, thereby contrasting regular coupons (i.e., with immediate benefits) against next-purchase coupons (i.e., with delayed benefits). For the next-purchase coupons, in addition, we will distinguish between various anticipation levels (i.e., advertised vs. surprise/unexpected).

Problem statement, research questions, conceptual model, hypotheses

Problem statement

Through this study, we thus aim to develop a deeper understanding of consumer responses to the three most used coupon delivery methods, namely: regular coupons, advertised next-purchase coupons, and surprise next-purchase coupons. In accordance with prior literature and current market practice, we define regular coupons as tickets made available to consumers prior or during their store visit, to be redeemed for a financial discount when purchasing a product (i.e., directly applicable). As opposed to regular coupons, next-purchase coupons are received at checkout only after the initial purchase has been made, making them redeemable for subsequent purchases to promote repeat purchasing. The latter coupon type is often advertised in-store on product shelves to entice consumers to buy from a particular brand or product category by offering this additional benefit; hereafter referred to as 'advertised' next-purchase coupons. Alternatively, consumers may be unaware of the next-purchase coupon until it is presented to them at

checkout to encourage positive retailer or brand perceptions; hereafter referred to as 'surprise' next-purchase coupons.

In this thesis, we will evaluate the implications of the various coupon delivery methods in terms of consumers' deal value perceptions and purchase intentions across two time periods – the current purchase period (when the coupons are received) and the subsequent purchase period (when the next-purchase coupons can be redeemed); hereafter periods 1 and 2. Accordingly, the problem statement of this research can be defined as follows:

'What effect does the coupon delivery method (regular vs. advertised next-purchase vs. surprise next-purchase) have on deal value perceptions and purchase intentions in both the current and subsequent purchase period individually, as well as overall for the two periods?'

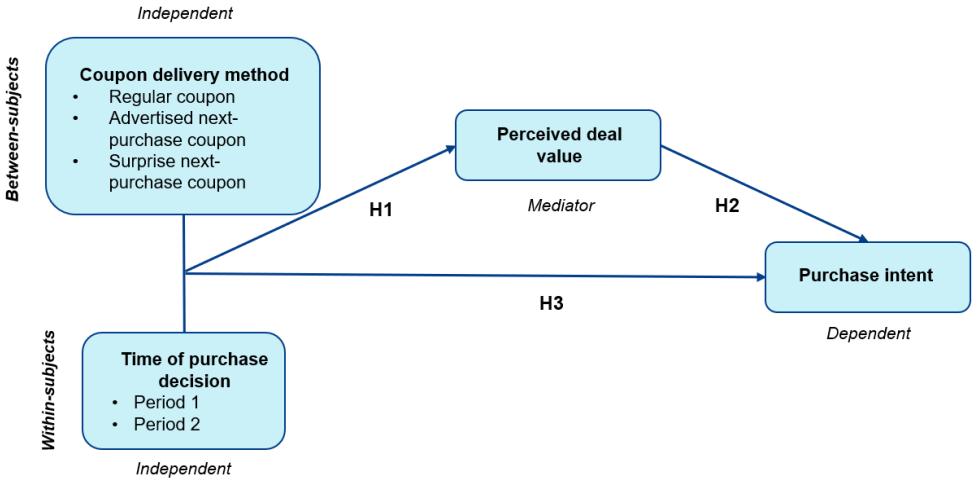
Research questions

In response, our study is grounded on a set of research questions – theoretical as well as empirical – addressed by means of a literature review to identify the possible underlying mechanisms of the effects found through an analysis of our experimental results, including:

- Which mechanisms could underlie variations in consumer responses to equivalent coupons with different delivery methods (regular vs. advertised next-purchase vs. surprise next-purchase) as defined by the current literature?
- How do the various coupon delivery methods (regular vs. advertised next-purchase vs. surprise next-purchase) compare in terms of consumers' perceptions of deal value?
- How does perceived deal value influence purchase intent in a two-period model?
- To what extent does perceived deal value mediate the relationship between the coupon delivery method and purchase intent: both for each purchase period individually, and overall for a two-period model?'

Figure 1

Conceptual Model



Conceptual model

This represents the following conceptual model – a mixed-mediation model with three treatments based on the coupon delivery method exposed to, and a dependent variable that is measured over two purchase periods – of which a visual overview is provided in Figure 1.

Hypotheses

Deal value perceptions for price promotions are generally positive, as the lower the price, the greater the perceived savings and the more attractive the deal (Krishna et al., 2002). Since next-purchase coupons are tailored to consumers' previous purchases and thus deemed more relevant than regular coupons, they likely cause higher deal value perceptions (Chatterjee, 2007). In addition, the double mental discounting phenomenon will be used to explain how the temporal separation of the acquisition and redemption of next-purchase coupons leads to lower perceived transaction costs and higher perceived savings (Cheng & Cryder, 2018). Especially when offered as a surprise – i.e., its acquisition was not anticipated – this adds to the already positive net deal value required to make the initial purchase, since the benefit could not be integrated in the purchase decision unlike for the other methods (Chatterjee, 2007). Accordingly, deal value perceptions are ought to be highest for this delivery method.

In turn, we expect a positive relation between perceived deal value and purchase intent up to and including the period of coupon redemption, as: the better the deal, the more consumers want to take advantage of it (Chatterjee & McGinnis, 2010). Considering that purchase intent will be highest in the redemption period, its values are ought to develop in the opposite way between-periods for regular and next-purchase coupons. For regular coupons in period 2, the influence of perceived deal value on purchase intent is expected to be negative based on the disappointment following the return of the prices to their original levels after the promotion (DelVecchio et al., 2007). Which will be reflected in a lower purchase intent value for the two-period model overall, accordingly favouring next-purchase coupons to regular coupons.

On top of which, the initial purchase in the context of next-purchase coupons may be regarded as an investment to acquire the coupon, hence creating an escalating commitment to redeem in a subsequent purchase period due to its looming sunk cost (Heath, 1995). That combined with being notified of the extra benefit early enough for double mental accounting effects to influence the initial purchase decision for those exposed to advertised next-purchase coupons makes its purchase intent level highest overall. Which is also the reason why surprise next-purchase coupons are ought to yield the lowest intent in period 1. However, a big jump is anticipated between-periods, such that this method performs best in period 2 due to its surprise effect and the delayed application of double mental discounting. This does make up for the difference with regular coupons in period 1, but not for the advertised offering.

Relevance study

Academic relevance

In the light of the fact that next-purchase coupons have received much less attention from the current literature than regular coupons, our model is drawn from the few papers available on delayed promotional

benefits, both of which offer a piece-meal view (see Cheng & Cryder 2018; Chatterjee, 2007). These demonstrate that double mental discounting allows consumers to feel as if they are spending less than they actually are when gains are strongly coupled with multiple expenditures (i.e., for next-purchase coupons), hence increasing the purchasing of ice cream over multiple purchase periods (Cheng & Cryder, 2018). For USB flash drives, consumers experience higher purchase satisfaction as well as retailer unfairness perceptions for surprise than advertised next-purchase coupons (Chatterjee, 2007). Moreover, when the surprise next-purchase coupon specified an explicit future start date, the perceived promotion value was found to be higher such that it could not be applied to the current purchase.

We seek to provide novel insights for literature on promotion framing through providing the complete picture by distinguishing between regular and next-purchase coupons for various anticipation levels. In the context of fashion retail, we examine the effects of the three coupon delivery methods on novel outcomes such as purchase intent over two purchasing periods, as well as perceived deal value as the mediator of our model, together with a thorough consideration of the underlying processes at play. The current study of next-purchase coupons also contributes to literature on behavioural effects due to the temporal separation of costs and benefits, since for this method the costs (i.e., the price of the initial purchase) thus precede the benefits (i.e., the reduced purchase price in period 2) (see Gourville & Soman, 1998; Heath 1995). Our results indicate that next-purchase coupons entice greater purchase intent than regular coupons, with the advertised method as best overall. Similarly, for perceived deal value, we observe higher values for next-purchase coupons than regular coupons, however we detect only a marginally significant difference between advertised and surprise offerings.

Managerial/practical relevance

This study also has substantial practical implications. Coupons have been a popular and widespread marketing strategy used by retailers for decades: the US coupon industry is the biggest worldwide and by itself worth over $100 million, with 293 billion coupons printed in 2017 alone (Tighe, 2022). Digital coupon redemption is also on the rise and projected to surpass $14.8 trillion by 2027 (Juniper Research, 2017). Yet, redemption rates remain very low, with only 2 of the 293 billion coupons printed actually being redeemed. Increasing this rates would mean higher sales for managers, and can be done for instance through simplifying the use and finding process of coupons, accommodating to consumers currently needing to search in multiple places to find coupons for products they intend to buy (Valassis, 2019).

With next-purchase coupons proposing a possible solution or improvement of the current situation, insights into their use and design in the retail environment to help explain, shape and further promote them as an increasingly popular form of consumer price promotion in the FCMG industry. Moreover, uncovering the implications of various coupon delivery methods, our study contributes to increased knowledge about how to stimulate purchase intent and perceived deal value most effectively, thereby making more effective use of the available price promotion tools to further improve retail strategies. Next-purchase coupons are broadly implemented in practice: in grocery stores, as well as services, pharmacies, home appliance,

department, online stores etcetera (Chatterjee, 2007). An example from the online domain is Birchbox which offers next-purchase coupons to their consumers after they have placed an order, telling them: '*We want you back. Take 20% of your next purchase!*' (see Appendix A).

Research approach and data

To evaluate our hypotheses, we will conduct a quantitative study by an online experiment fostering hypothetical shopping scenarios that employs a 3 (coupon delivery method: regular coupon vs. advertised next-purchase coupons vs. surprise next-purchase coupon) x 2 (time of decision: period 1 vs. period 2) mixed factorial design. Namely, the delivery of equivalent coupon benefits is manipulated between-subjects to create three treatment conditions, to which participants are randomly assigned at the start of the experiment. The time of decision, however, is manipulated within-subjects such that our dependent variable purchase intent is measured twice for each participant. Therefore, we do not only study outcomes for the redemption periods as to allow us to observe the predicted effects of double mental discounting for next-purchase coupons, which can accordingly be contrasted against purchase intent values for regular coupons over the two-period model overall. To compare the purchase intent means of the groups cross-classified by our two independent categorical variables – as measured on a 100-point scale – we will analyse our data through a two-way mixed factorial analysis of variance (ANOVA). Moreover, we will assess the role of perceived deal value – as measured on a three-item 7-point Likert scale – as a mediator in the relationship between coupon delivery method and purchase intent through performing PROCESS macro mediation analyses for each purchase period.

Theoretical framework

Coupon delivery method and perceived deal value

Coupon delivery methods

Regular versus next-purchase coupons

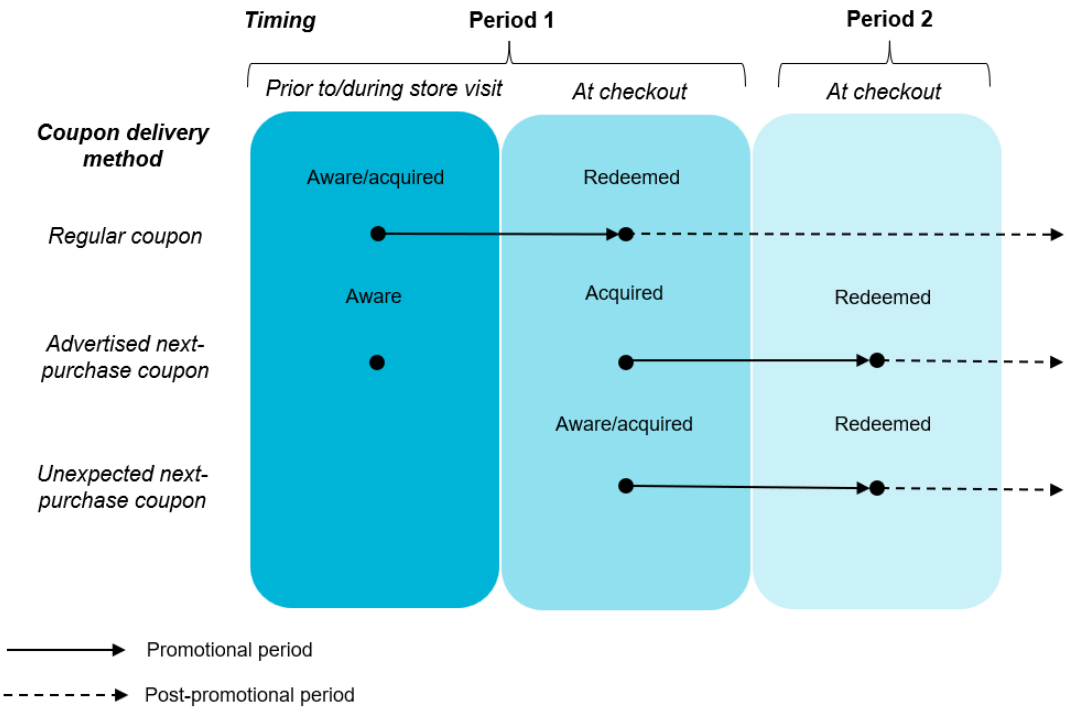
For the last few decades, coupons have been a popular price discrimination tool in the consumer goods industry since their use depends on a trade-off between their savings and the costs of acquiring them, which makes them particularly popular among comparison shoppers (Narasimhan, 1984; Lu & Moorthy, 2007). Coupons are generally classified into two types: regular coupons, and next-purchase coupons (also known as 'checkout' coupons). In classic examples, regular coupons are cut and collected from retailers' promotional flyers, while next-purchase coupons are often printed on the back of cash register receipts or separate scanner sheets, entitling the holder to a discount (Chatterjee, 2007). Increasingly, coupons are also offered through mobile applications, in the light of the undeniable integration of technology into our daily lives. A coupon may be targeted at a specific product, a product category – i.e., all jeans at a clothing retailer or the baked goods section of a supermarket – or may apply to almost any product in store. Unlike for temporary price reductions, these require consumers to present a code to the cashier, which makes them less universal. In turn, since next-purchase coupons are frequently based on consumers' previous purchases, they are even more personalized than regular coupons. A coupon for a consumer who regularly shops from brand X at

fashion warehouse Y might look like this: '*Get 20% off your next-purchase from X at Y!*'. Which discount is more likely to appeal and be relevant to consumers than a regular coupon stating: '*Get 20% off all jeans at Y!*' while the consumer might not even like jeans.

The main distinction between regular and next-purchase coupons, however, is the moment at which each is acquired and redeemed (see Figure 2). Regular coupons are obtained prior to (and sometimes during) the initial store visit and can then be redeemed for a financial discount upon purchase. In contrast, next-purchase coupons can only be obtained after paying the full price for an item and are issued immediately after the initial purchase to be redeemed at a subsequent purchase period (within the period as specified on the coupon) at the issuing retailer for an item from the same brand or category (Narasimhan, 1984; Krafft & Mantrala, 2010; Chatterjee, 2007). Thus, by requiring an additional purchase to be able to redeem the discount, next-purchase coupons provide delayed discount benefits and incentives to purchase at the time of offer (Chatterjee, 2007). In addition, the convenience of receiving the next-purchase coupon at checkout makes it appealing to a wider audience, since they do not demand much effort to obtain. Regular coupons, in contrast, require consumers to invest time in searching for deals that are suitable to their needs and preferences.

Figure 2

Timelines Coupon Delivery Methods



Advertised versus surprise next-purchase coupons

The importance of acknowledging these seemingly small differences between coupon delivery methods is underlined by prior research that finds the framing and timing of coupon benefits to elicit very diverse responses from consumers, despite only being different presentations of the same stimuli (Choi & Mattila,

2014; Tversky et al., 1988). Aside from the contrast between regular and next-purchase coupons, the theory also applies at a more specified level, namely for next-purchase coupons at different anticipation levels: advertised and unexpected (i.e., offered as a surprise at checkout) as included in Figure 2 (Heilman et al., 2002). Extant literature compares regular and next-purchase coupons – and advertised and surprise next-purchase coupons – for choice, retailer fairness, purchase amounts and satisfaction for both the current and subsequent purchase periods (see Cheng & Cryder, 2018; Chatterjee, 2007). Compared to objectively similar regular coupons, Cheng and Cryder (2018) find that next-purchase coupons stimulate purchasing more while also increasing the dollar amount spent per purchase. Initially, this seems counterintuitive as next-purchase coupons offer essentially the same benefits but delayed, such that if we were to discount for time, regular coupons would objectively be preferred. Chatterjee (2007) in a further specification of the effect, finds surprise next-purchase coupons to contribute to a higher purchase satisfaction but also higher perceived retailer unfairness, as compared to the advertised offering.

As its name suggests, consumers are made aware of advertised next-purchase coupons prior to deciding to purchase in that period, similarly to regular coupons. Most often, they are attenuated on the product shelves in store, but they can also be advertised in retailers' folders or online, conveying for instance: '*Buy a product from (brand X) and get €20-off your next purchase from them'*. Consumers only become aware of surprise next-purchase coupons at the cash register after having purchased the product (i.e., simultaneously with coupon acquisition) which may look as follows: '*We appreciate your purchase, here is €20-off your next purchase from (brand X)/(product category Y) with us!'.* In both cases, consumers receive a €20-off coupon after their initial purchase to be redeemed for their next-purchase with that brand or retailer. Hence, both coupons are factually equivalent for the same objective value and should thus impact behaviour and intent similarly if we assumed rationality (Chatterjee, 2007).

Perceived deal value

However, as we have learned from extant literature, this assumption does not hold in reality because of systematic variation in, among others, deal value perceptions as affected by differences in timing of the awareness (Della Bitta et al., 1981). Perceived deal value or deal attractiveness is conceptualized as a consumers' evaluation of the merits of a deal and its ability to meet their needs and expectations and represents a popular measure of promotional effectiveness (Sweeney & Soutar, 2001; Büyükdağ et al., 2020). Of which, perceived prices are a key determinant, referring to a subjective form of the monetary value of a product, i.e., whether a product is cheap or expensive (Calvo-Porral & Lévy-Mangin, 2017). Specifically, price is perceived as a monetary measure of what must be sacrificed to acquire a good and thus importantly determines perceived savings – i.e., the most common measure of response to price promotions – which negatively relates to price (Krishna et al., 2002). To summarize, the lower the price, the higher perceived savings, and the higher the perceptions of deal value.

In general, coupon promotions are suggested to yield significantly higher perceptions of deal value than universal discounts as discounts offered to all consumers can erode brand equity and increase price

sensitivity (Chatterjee & McGinnis, 2010; Suri et al., 2004; Yin & Dubinsky, 2004). Moreover, as was briefly touched on before, next-purchase coupons are increasingly tailored to consumers' previous purchases, which allows retailers to target current buyers of a particular product category more specifically or brand as opposed to regular coupons (Chatterjee & McGinnis, 2010). Consequentially, consumers will be exposed to deals that they actually find valuable and are likely to use because they have bought the discounted item or something similar before, thereby strengthening positive retailer/brand perceptions and minimizing store/brand switching since they feel heard (Coelho & Henseler, 2012; Chatterjee 2007; Dodson et al., 1978; van Heerde et al., 2003; Sun et al., 2003).

Even more intriguing is the mental accounting explanation to the anticipated variation in values for perceived deal value between regular and next-purchase coupons, namely the double mental discounting phenomenon as described by Cheng and Cryder (2018). Thaler (1985) posits that individuals create a mental account upon entering a transaction which is closed once it is completed: that is, the consequential paying for and consumption of the product. Consequentially, coupling is induced which causes consumers to perceive an obvious or salient link between consumption and payment, such that the costs and benefits of the transaction become psychologically entwined (Prelec & Loewenstein, 1998; Kamleitner, 2008). For next-purchase coupons, this causes the single gain acquired in period 1 to be strongly associated with both the purchase cost (i.e., the price) in the acquisition and the redemption period (i.e., both periods 1 and 2). Coupling being an essential prerequisite for double mental discounting, it creates the tendency to mentally deduct the discount benefit for both the initial and subsequent purchase period, while the coupon is only effective for the latter (Cheng & Cryder, 2018). Namely, since the savings – the face value of the delayed incentive – are vivid, salient, and unambiguous, they can be easily integrated with the purchase price paid. In turn, consumers will lower their cost perceptions relative to the actual costs of the purchase because the perceived price of the product will be lowered, resulting in higher perceived savings and more favourable perceptions of the promotion offer.

To illustrate, suppose a customer purchases a pair of sneakers of a certain brand priced at €100 in period 1, with which he receives a coupon for €20-off his next purchase in period 2 from this same brand. According to the double mental discounting theory, when he decides to buy another pair of sneakers from this brand, he is ought to mentally subtract the €20 benefit from both the €100 spent in period 1 and period 2. Therefore, the consumer feels as if he only spent €160 on two pairs of sneakers, even though he paid €180. Through interpreting the costs more favourably, consumers will thus feel as if they are getting a better deal than what is actually being offered: a single price discount of €20 instead of a double discount totalling €40. While consumers exposed to regular coupons do tend to link consumption and payment, the phenomenon does not apply in this case as the costs and benefits of the initial transaction are not mentally transferred to the subsequent purchase period (Prelec & Loewenstein, 1998; Kamleitner, 2008). Accordingly, the value of regular coupons is likely evaluated more accurately than for next-purchase coupons, in which light we hypothesize:

H_{1a} = Consumers who receive a next-purchase coupon perceive deal value to be higher than consumers who receive a financially equivalent regular coupon.

The next step is to focus on differences in perceived deal value for next-purchase coupons, namely between the advertised and surprise delivery methods. We anticipate consumers to integrate the value of the advertised next-purchase coupons in their purchase decision already at the product shelves where they are first made aware of the deal, such that it is able to compensate for lower willingness-to-pay values (Chatterjee, 2007). Whereas for advertised next-purchase coupons, it can be the deciding factor when feeling unsure about whether to purchase – thereby increasing the number of purchases in period 1 – this does not apply to surprise next-purchase coupons. As consumers are not aware of the deal before the initial purchase, they must be prepared to pay the product's full price, which allows for higher future purchase probabilities without impacting current values (Chatterjee, 2007). Critics of surprise next-purchase coupons, however, argue that this coupon type tends to over-benefit consumers as they already perceive the net value of the purchase to be positive in absence of the price promotion deal, such that it is suboptimal to the advertised offering (Gourville & Soman, 1998). Consequently, the perceived deal value for surprise next-purchase coupons is stimulated increasingly.

Moreover, this coupon type is inevitably linked to purchase decision re-evaluation after the initial purchase, during which double mental discounting is applied through a delayed subtraction of the discount's value from the purchase price. It is the unexpected benefit represented by the face value of the coupon that looms large that – when compared to the effort and expense required to get the savings which are underweighted – is a greater influence on the post-transaction evaluation of the purchase decision (Gourville & Soman, 1998). On top of which, the surprise of acquiring the coupon unexpectedly at checkout increasingly stimulates positive brand and retailer perceptions because of higher purchase satisfaction (Chatterjee, 2007). The surprise next-purchase coupon is likely to be perceived as more of a personalized gift since it is acquired in private and information about whether others receive the same deals is hidden. For the advertised offer, posters are hung in store with the intent to encourage as many people in that section the next day to purchase, and is not targeted at a specific consumer. Hence, advertised next-purchase coupons seem more universal: the sign advertising the deal is visible and applies to everyone in store. In contrast, for surprise next-purchase coupons, it may seem more on the spot and as if the retailer would like you in specific to come back to their store. Therefore, we hypothesize the following:

H_{1b} = Deal value perceptions for next-purchase coupons are higher when the coupon is offered as a surprise rather than advertised.

Perceived deal value and purchase intent

Perceived deal value is in itself an important antecedent in stimulating purchase intentions, which is a measure of shoppers' propensity to buy a product or service. Namely, purchase intent represents the sum

total of the cognitive, affective, and behavioural towards the adoption, purchase and use of products, services, ideas, or certain behaviours (Dadwal, 2019). Overall, we anticipate perceived deal value and purchase intent to maintain a positive relationship. A price discount reducing a product's original price is viewed as a gain – and more importantly as less of a monetary sacrifice – which perceived savings cause consumers to increasingly want to benefit from the deal, thereby heightening their purchase intent (Lee & Chen-Yu, 2018; Zeithaml, 1988). In addition, we anticipate that this association will be particularly strong for each coupon during its redemption period, when its benefits are most prominent in consumers' minds at the time of purchase. Therefore, we hypothesize:

H_2 = As deal value perceptions increase, consumers' purchase intentions will increase as well in the promotional period.

This hypothesis is defined in terms of the promotional period, that is, the period from the acquisition to the redemption of the coupon. In our two-period model, the promotional period is longer for next-purchase than regular coupons as for the former it encompasses both purchase periods, which has implications in terms of purchase intent (see Figure 2). Namely, the post-promotional period naturally refers to the periods subsequent to the coupon's redemption and is thus only studied for regular coupons in period 2, such that it is beyond the scope of our study to compare outcomes among the methods for this period specification. Although, it is worth mentioning that for regular coupons in period 2 we thus expect perceived deal value to influence purchase intentions through future price expectations instead, which represent the expected values of purchase prices at subsequent purchase opportunities (DelVecchio et al., 2007). Similarly to an increasing promotion depth, the greater the perceived deal value, the lower consumers' expectations of the future purchase price. Because of this, the product will be perceived as more affordable than consumers initially anticipated, which causes them to adjust their reference points to the currently (lower) discounted purchase price (Kim & Kramer, 2006; Krishna et al., 2002). Whereas this stimulates purchase intent in period 1, it ought to adversely affect consumers' purchase intentions during the subsequent periods – as well as in the long-run – when prices return to their normal levels. Namely, since the actual prices exceeds the expected prices, consumers will be apprehensive about purchasing and will be more prone to wait for another round of price promotions (DelVecchio et al., 2007; Pauwels et al., 2002). Therefore, once the promotion has ended, perceived deal value should negatively impact purchase intent.

Coupon delivery method and purchase intent

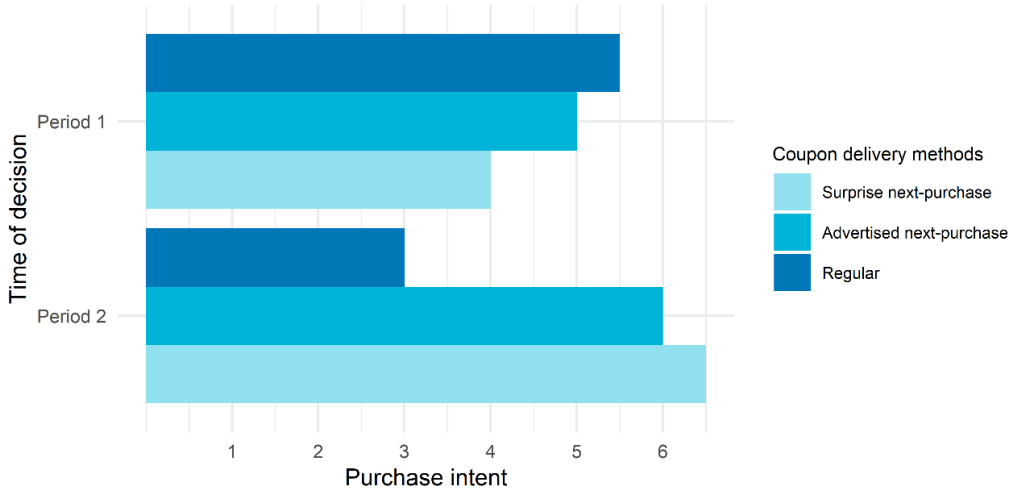
Based on the previous discussion, we thus expect purchase intent to be highest for regular coupons in period 1 (i.e., its redemption period) and for its value to experience a substantial between-period decline because of the experienced disappointment. Figure 3 visualizes our relative expectations in terms of purchase intent levels of the various coupon delivery methods at different times of decision. Namely, we expect purchase intent values to develop in the opposite direction for next-purchase coupons as compared to regular coupons, with a higher intent for next-purchase coupons through double mental discounting. But also

by dispensing the added pressure to spend now or else miss out on incentives or discounts, as the discount is thus not only applicable to the current period but also thereafter (Gabler et al., 2017). It is noteworthy that, for next-purchase coupons in general, even though the second purchase may not be as necessary, intentions remain high due to the sunk cost effect when the initial purchase is regarded primarily as a means of obtaining the coupon and thus as an investment in future savings. Namely, if the transaction is performed without redeeming the coupon in a subsequent period, part of the total benefit including the value of the product itself cannot be offset (Thaler, 1980). Due to the otherwise looming sunk cost, consumers may irrationally alter their behaviour in response to this hypothetical scenario, escalating their commitment to redeem the coupon in this period 2 (Soman, 2001; Heath, 1995).

For the advertised type, purchase intent remains relatively constant over the two periods as the nature of the next-purchase coupon encourages consumers to act now rather than to wait for promotions as for regular coupons, since price discount acquisition has now become a direct consequence of action (Reibstein & Traver, 1982; Babakus et al., 1988; Bawa et al., 1997). In addition, the 'surprise' of encountering the advertised next-purchase coupon in-store is found to increase the size of shopping baskets and the number of unplanned purchases made on the shopping trip, which too contributes to the higher purchase intent for the advertised compared to the surprise offering in the initial period. Namely, advertised next-purchase coupons may target consumers directly at the point of purchase where the majority of the purchasing decisions are made (Heilman et al., 2002). Since the benefit offered by surprise next-purchase coupons cannot be integrated into the initial purchase decision, consumers' motivation to purchase in period 1 will equal the level when no price promotions are offered or expected. In contrast to regular coupons, we expect its between-period change in purchase intent to be of a similar magnitude as many positive effects are compounded in period 2, such that purchase intent will be highest for this method in the subsequent period.

Figure 3

Purchase Intent Expectations



Note. Purchase intent expressed on a 7-point scale from 'Would certainly not purchase' to 'Would certainly purchase'. A score of 4 – i.e., equally likely to purchase than to not purchase – is considered the common purchase intent score in a period without (expectations of) price promotions.

Ultimately, it is the full picture that matters, and thus which coupon delivery method will perform best in terms of the overall value for purchase intent for the two-period model. From this, we anticipate overall purchase intent to be highest for advertised next-purchase coupons, followed by surprise next-purchase coupons, and lastly regular coupons. We hypothesize:

H_{3a} = For a two-period model, consumers who receive a next-purchase coupon have a higher overall intent to purchase than consumers who receive a financially equivalent regular coupon.

H_{3b} = For a two-period model, overall purchase intent for next-purchase coupons is higher when the coupon is advertised instead of offered as a surprise.

Methodology

Design

Measures

Our study employs a 3 (coupon delivery method: regular vs. advertised next-purchase vs. surprise next-purchase) x 2 (time of decision: period 1 vs. period 2) mixed factorial design. Participants will be randomly assigned to one of three conditions, as such coupon delivery method will be manipulated between-subjects. The time of decision is a within-subjects factor, such that each participant will provide their purchase intention ratings for both periods 1 (i.e., the current purchase occasion) and 2 (i.e., the subsequent purchase occasion) in response to hypothetical scenarios. Intent will be measured on a 100-point scale anchored on 0 (‘*Certainly would not purchase’*) on the left and on 100 (‘*Certainly would purchase’*) on the right. In addition, we will measure our mediating construct, perceived deal value, on a three-item 7-point Likert scale from ‘*Strongly Disagree’* to ‘*Strongly Agree’*, as suggested by Biswas and Burton (1993) to measure perceived savings (Cronbach’s $\alpha = 0.93$) (Lee & Chen-Yu, 2018). Which includes the following statements: ‘*The amount of discount offered by this coupon represents large savings’*; ‘*The amount of money that consumers would save with this coupon is very large*’; ‘*The amount of discount stated by this coupon is very high’.*

Between/within-subjects design

Employing a mixed design, we combine the strengths of both between- and within-subjects designs. The most commonly used design for experiments in the field of decision-making – the between-subjects design – was used for our coupon delivery method factor to prevent the substantial carryover effects from exposure to previous treatment conditions (Keren & Lewis, 2014). In case of a within-subjects design, manipulating the coupon delivery method variable within-subjects would otherwise likely lead participants to guess our study’s hypotheses and respond to our experiment accordingly (Koschate-Fisher & Schandelmeier, 2014). Our between-subjects manipulation also eliminates fatigue effects, wherein participants could become less motivated or exhausted after having responded to too many situations and statements (Keren & Lewis, 2014). However, a between-subjects design may introduce statistical issues as it requires a higher minimum

sample size for the same power and uses more resources, as too is included in the relevant considerations in choosing the appropriate design for interpreting empirical results as proposed by Keren and Lewis (2014).

The methodological issues of a within-subjects design threatening internal validity are less relevant since our study is large enough that there will not be relevant effects of covariates or individual differences on our dependent variable (Greenwald, 1976; Keren & Lewis, 2014). Therefore, the examination of causal relationships within our conceptual model is naturally facilitated. Since our within-subjects factor time of the purchase decision is not the focal variable of our model, its design disadvantages are less serious than they would be for the coupon delivery method factor. Namely, this variable is only used to observe differences in subjects' purchase intentions between the two purchase opportunities in response to changing shopping contexts, such that the design's lack of independence does not pose additional problems but to stimulate higher effectiveness and efficiency (Greenwald, 1976).

Stimuli

Due to the widespread implementation of next-purchase coupons across the FMCG industry, the relevance of our research questions is not restricted to specific product categories. Therefore, our experiment features price discounts on fashion products, which is the category in which coupons are used most often by American women (Loesche, 2017). Through focussing on the purchase of a pair of sneakers and a shirt, we intend to stimulate consumers' personal involvement with the products on offer as these can appeal to individuals of all ages, genders, and preferences (if envisioned in their desired style). This is essential to ensure that participants' responses are an accurate representation of their behavior, since if involvement and cognitive effect are low, they might only devote limited time and effort into participating and may answer arbitrarily instead (Chaiken, 1980; Solomon, 2019). Further, consumers tend to purchase these items relatively frequently, and since the purchase occasions are three months apart in our study, a repeat purchase over such a period is not more than conceivable. Rather, we expect many subjects to refrain from making a similar purchase a month later in period 2 if offered coupons for plane tickets as in study 4b by Cheng and Cryder (2018), since they are likely not used to travelling that frequently.

As for the products offered in the hypothetical shopping scenarios, we refrain from mentioning real brand names to minimize the impact of existing associations or past experiences with particular clothing or shoe brands to control for individuals' attitudes and emotions towards the brand. Namely, this could lead participants to use their background knowledge about the company – that was not specified in the exercise – which could prevent our manipulations from working properly. As such, we refer to the fictional clothing store 'Rufous' and fictional brand 'Debute' in our purchase scenarios. This poses one possible concern, namely that participants might experience difficulty in evaluating the product's perceived value, and thus may not be able to compare its quality and price. To reinforce its quality, participants are instructed to imagine Rufous to be their favourite clothing store, and that they are searching for items to add to their spring/summer wardrobes, so that low values for purchase intent cannot be attributed to not needing anything. Upon finding a product that they like in store, they then contemplate whether to purchase it. Since

other studies on perceived deal value – such as Chatterjee and McGinnis (2010) – have also used fictitious retailers for their experiments, we do not expect our results to be affected by this choice.

In designing the coupons, we chose to frame the discount benefit in monetary terms as this requires fewer cognitive resources (i.e., lesser computational steps) to apply double mental discounting rather than for a percentual discount, such that its effects are easier observed (DelVecchio et al., 2007; González et al., 2016; Kim et al., 2019). For a similar reason, we chose to make the discount benefit €25 in the scenarios, since calculations with numbers ending in five are more easily performed (Estelami, 1999). Furthermore, for next-purchase coupons we specified that the deal applied only to products from the same brand as their purchase in period 1, whereas for regular coupons it just specifies the same retailer. By doing so, we wish to emphasize the tailored nature of next-purchase coupons in comparison to regular coupons, as they are often based on consumers' observed past buying behaviour and preferences. Also, as recommended by Chatterjee (2007), we restrict the start date of the surprise next-purchase coupon to the day following its acquisition and the initial purchase to increase purchase satisfaction, perceived deal value and retailer fairness. Alternatively, we would expect consumers to regret not being able to apply the coupon to the initial purchase, making the promotion deal appear less valuable. As is typical for regular coupons, we included an expiration date to encourage consumers to purchase sooner, taking advantage of consumers' innate fear of missing out on the benefit. These last discussed modifications to the coupons' design are only minor and are not expected to cause significant differences in results, however it is important to note that these factors were considered. For instance, we also specify a minimum purchase value, which participants do not necessarily need to consider as both products on offer are in excess of this amount.

Procedure

The procedure of the experiment varies across the three coupon delivery method conditions (see Appendices B and C). Participants in the regular coupon condition first learned about their favourite physical clothing store Rufous' new mobile app, which offers a coupon for €25 off their next purchase at Rufous with a minimum purchase value of €50 (valid until May 1st 2022). After that, they imagine a week has passed when they are on a shopping trip to Eindhoven where they discover a pair of Debute sneakers for €105 at the Rufous store, which they contemplate on buying. Being reminded of the coupon, they are asked to indicate their intention to purchase these sneakers. In three months, they return to the Rufous store where they see a shirt from Debute priced at €55, for which they are again asked to indicate their purchase intent. Afterwards, they are presented with the same coupon again and asked to comment on how favourable they perceive the deal to be. In the final step, participants were required to complete a comprehension check to verify that they understood for which purchase they could redeem the coupon (as determined by their assigned treatment).

Contrarily, those exposed to the advertised next-purchase coupon first envision themselves on a shopping trip to Eindhoven, where they find the pair of Debute sneakers priced at €105 in the Rufous store. Whilst trying on the sneakers, they observe a sign on the product display stating that with the purchase of Debute sneakers, they will receive €25 off their next purchase from Debute at the Rufous store (with a minimum

purchase value of €50). The next step is to ask them to what extent they intend to make the purchase, but regardless of the answer, they are then instructed to assume they made the purchase. Consequently, the next-purchase coupon is transferred to their account on Rufous' mobile application. Three months later, they visit the Rufous store again and find a shirt from Debute priced at €55 that they really like. When they are then asked to rate their level of purchase intent, they are reminded of the coupon they received with their last purchase, after which, the same coupon is shown again and used to question participants about their perceptions of the deal's value. Following this, the comprehension check is presented.

For participants exposed to the surprise next-purchase coupon condition, the procedure is nearly identical to that for participants exposed to the advertised next-purchase coupon condition, except that they are only made aware of the coupon after the initial purchase is made in period 1 at checkout (i.e., there is no exposure to an in-store sign). Moreover, for the surprise next-purchase coupon it is also mentioned that it is valid only from April 15th.

Sampling

Size

To determine the minimum sample size required to run our experiment, we perform a power analysis using GPower software to calculate the a-priori power required to detect a two-way interaction among the factors, as well as heuristics (Koschate-Fischer & Schandelmeier, 2014). Specifically, we perform a 'ANOVA: Repeated measures, within-between interaction' statistical test from the *F tests* family to run the 'A priori: Compute required sample size – given α, power, and effect size*'* power analysis. The effect size measure Cohen's f(v) is estimated using the partial η^2 value assumed on the basis of researchers' expectations of the size of the studied effect and can be interpreted as: f=0.1 (small), f=0.25 (medium), f=0.4 (large) (Cohen, 1988). We set error probability $\alpha = 0.05$, statistical power $1-\beta = 0.80$, number of groups = 3, number of measurements = 2 (Christensen, 2007; Cohen, 1988; Cohen, 1992).

Our effect size estimate is based on study 1A by Cheng and Cryder (2018) where those in the next-purchase coupon treatment purchase significantly more often ($\mu = 1.14$, $\sigma^2 = 0.67$), than those in the regular coupon condition ($\mu = 1.00$, $\sigma^2 = 0.30$). Therefore, the effect size is estimated to be somewhere between 0.21-0.47. We set a value that is not too high but still practical – f(v) = 0.30 – as Cheng and Cryder (2018) did not consider the further specification of next-purchase coupons into an advertised and surprise type, hence we do not want to risk assuming an effect size too large as this may lead to insignificant results in assessing the differences between both forms of next-purchase coupon. We then multiply the results by 3 (i.e., the number of manipulations) to obtain a total sample size of 333 (111 per group), whereby we also satisfy Sawyer and Balls' (1981) rule of thumb of administering at least 30 participants to each experimental condition.

Source

In our case, non-probability sampling is the most convenient method in recruiting a large number of participants in a relatively short time period and at an affordable price (Taherdoost, 2016). However, its

results are not as representative for the entire population as for probability sampling – the most common method employed in quantitative research – hence there is a risk of sampling bias (Daniel, 2012). Through employing a mix of data collection techniques comprised of voluntary response, convenience, as well as snowball sampling, we aim to minimize this risk by making participant selection more random (Vehovar et al., 2016). The survey will be publicly posted to multiple online platforms, including Instagram and Facebook, to allow individuals to volunteer themselves (Vehovar et al., 2016). As some are inherently more likely to volunteer than others, we cannot solely rely on this method and thus further refine our data collection by convincing those not likely to fill out surveys through convenience and snowball sampling methods. We directly contact conveniently available members of the target population to participate in our study, whom we inquire to distribute the survey among their peers to increase our reach (Gabor, 2007).

To increase participants' overall willingness to take part in the experiment and to improve data quality through reducing the number of incomplete responses, we design monetary incentives as compensation for their expended time and effort (Read, 2005; Church, 1993; Jobber et al., 2004; James & Bolstein, 1990; McDaniel & Rao, 1980). These payments are not paid out for participants' own financial gain, but rather are donated to a charity. Marginal utility is found to decrease with increasing incentive amounts, specifically, an incentive that is too large loses its symbolic character of a 'little thank you' and instead becomes like a mandatory payment (Mizes et al., 1984; Warriner et al., 1996). In which case, potential participants would weight the payment against their efforts and may conclude that the amount is insufficient (Koschate-Fischer & Schandelmeier, 2014). In this regard, we set the donation amount at 0.15 cents per participant, which is likely deemed reasonable, given the fact that every cent can make a difference for charities, leaving participants with a good feeling.

Analysis

We will analyse the data using a two-way mixed factorial ANOVA, as popular statistical test to analyse the differences between the means of multiple groups. This form in specific will be used to estimate how the mean of our dependent variable purchase intent (i.e., a repeated measures dependent variable) changes according to the level of our treatment variable coupon delivery method (i.e., measured between-subjects), for each level of our independent variable time of decision (i.e., measured within-subjects). Since our design thus employs more than one categorical independent variable, this makes our ANOVA 'factorial'. On the basis of F-tests to assess the statistical significances of our model's relationships, we will simultaneously test three null hypotheses: 1) There is no difference in purchase intent for any coupon delivery method, 2) There is no difference in purchase intent at either purchase period, 3) The effect of coupon delivery method on purchase intent does not depend on the effect of the time of decision (i.e., no interaction effect).

However, we do not only consider the direct effects of the coupon delivery method on purchase intent, but also the influence of perceived deal value as a mediator. Therefore, we run a mediation analysis using PROCESS macro model 4 which makes use of bootstrapping methods to examine the extent to which perceived deal value fulfils a mediating role in the causal sequence by which coupon delivery method causes

perceived deal value that causes purchase intent, and whether this can be attributed to either full or partial mediation. Through dummy coding our multicategorical treatment variable, we will be able to observe the significance of the mean differences between the various coupon delivery methods. Due to our repeated measures dependent variable, we will have to conduct this analysis twice for each time of the decision – period 1 and period 2.

Results

Design

The study employed a 3 (coupon delivery method: regular vs. advertised next-purchase vs. surprise next-purchase) x 2 (time of decision: period 1 vs. period 2) mixed factorial design. Coupon delivery method was manipulated between-subjects and time of decision within-subjects, with dependent variable purchase intent measured twice for each participant. After being randomly assigned to one of the three treatments based on the delivery method of the coupon, participants were exposed to a hypothetical shopping scenario over two subsequent time periods which they imagined being reality. They then answered questions to measure our variables of interest: purchase intent and perceived deal value (i.e., our mediating construct), after which they completed a comprehension check and provided demographic information.

Sample

Participants

319 individuals participated in the study, recruited through an array of non-probability sampling methods including voluntary response, convenience, and snowball sampling. 17 of the collected responses were excluded from analysis as these are incomplete and, in most cases, terminated before answering the first question. Through applying the Mahalanobis Distance measure to our within-subjects factor and mediator, we aimed to identify any significant outliers, which method is especially effective for multivariate data by relying on the variance between variables to obtain the number of standard deviations a specific point is away from the distribution. The Mahalanobis scores were then compared to a cut-off value based on a χ^2-distribution to give a quantile function, where an outlier is identified as a value at least 0.1% outside the data (see Appendix D). We find one significant multivariate outlier that shows exceptionally low deal value perceptions, but who passed the comprehension check and whose values for purchase intent are comparable to that expected for his treatment. Therefore, this observation represents actual behaviour and preference that is not the result of misunderstanding, which is a very valuable insight that must not be excluded from analysis.

Comprehension check

The comprehension check at the end of our study revealed that, on average, 78.15% of the sample showed that they correctly understood their assigned treatment, which number seems sufficiently high ($M_{regular}$=73.27%, $M_{advertised}$=82.00%, $M_{surprise}$=79.21%) (see Table 1). To check if the failure rates between the coupon delivery methods significantly differ, we performed a Pearson χ^2-test with our null hypothesis

stating that comprehension and treatment are independent (see Appendix E). We find that the null hypothesis cannot be rejected, such that statistically, neither of the treatments' shopping scenarios has been determined to be significantly more difficult to understand than the others (χ^2(df=2,N=302)=2.34, p=.31).

Table 1

Response to Comprehension Check per Treatment

	Frequency (%) Comprehension check		
	Regular coupons	Advertised next-purchase coupons	Surprise next-purchase coupons
Purchase 1	74 (73.27)	6 (6.00)	3 (2.97)
Purchase 2	13 (12.87)	82 (82.00)	80 (79.21)
Both purchases	14 (13.86)	12 (12.00)	18 (17.82)
Total	**101 (100)**	**100 (100)**	**101 (100)**

Note. Blue cells highlight correct answers per treatment to comprehension check.

Incorrect answers likely resulted from not reading the shopping scenarios thoroughly enough to recall the right answer, but could also have occurred as a result of simply forgetting it (even if the treatment affected the individual during the actual experiment). Moreover, the majority of those who failed the comprehension check and were assigned to the next-purchase coupon treatments thought the coupon was valid for both purchases. Namely, unconscious irrational thinking may have caused them to double discount and trick themselves into thinking that it could be applied to both purchases. In which case, we should not exclude these observations, as they have important theoretical and practical ramifications for our study. Despite the common practice of dropping subjects after such a post-treatment manipulation check, this could thus lead to serious bias. Our sample size is large enough to be robust and to expect reliable results, which is why we decided to keep these observations (Aronow et al., 2019). However, to be safe, we reran our analysis excluding those who failed the comprehension check in Appendix J and performed additional Pearson χ^2-tests to find the mean differences in purchase intent between the two samples to not be statistically significant (period 1: χ^2(df=2,N=538)=0.08, p=.96); period 2: χ^2(df=2, N= 538)=0.50, p =.78); overall average: χ^2(df=2, N=538)=0.04, p=.98)) in support of our decision to keep them in.

Demographics sample

This leaves 302 observations (median age=15-30 years; 61.92% female) of which the majority completed the experiment in Dutch (88.41%) and the rest in English (11.59%). Table 2 provides a broad overview of the demographic characteristics of our sample, on which we perform some goodness of fit tests (i.e., χ^2-tests for given probabilities) to determine whether it is representative of actual demographic data of the Netherlands for 2021, as published by Statista Research Department (Statista, 2022) (see Appendix F). In terms of gender, we must reject this null hypothesis as our sample over-represents women (χ^2(df=1,N=289)=24.03, p<.001). We find a similar result for age, over-representing youngsters and under-representing the 60+ category, which is not remarkable given the age of the researcher (χ^2(df=4,N=298) =85.25, p<.001). However, since the older generations are generally less accustomed to modern

technologies, this inevitably decreases the study's relevance for them as they will naturally be less likely to acquire and redeem coupons through mobile applications.

Table 2

Demographic Characteristics Sample

A: Frequency (%) Age		B: Frequency (%) Gender	
0-15 years	11 (3.64)	Male	102 (33.78)
15-30 years	107 (35.43)	Female	187 (61.92)
30-45 years	77 (25.50)	Non-binary/third	4 (1.33)
45-60 years	80 (26.49)	gender	9 (2.98)
60+ years	23 (7.62)	Prefer not to say	
Prefer not to say	4 (1.33)		
Total	**302 (100)**	**Total**	**302 (100)**

Also, we performed randomization or independence checks to determine whether subjects of different ages and genders were roughly equally distributed across the treatment groups (see Appendix E). The Pearson χ^2-test for gender cannot conclude that gender and coupon delivery method are associated, i.e., gender cannot explain between-treatment differences in our outcome variable (χ^2(df=2,N=289)=0.18, p=.91). Similarly, for age, the two variables are not associated as we fail to reject the null hypothesis (χ^2(df=6,N=287)=7.60, p=.27).

Data and analysis

Assumptions

In preparation for our analyses, we must perform some preliminary tests to inspect whether our data meet the necessary assumptions for both internal and external validity, to ensure that we are able to reliably interpret the data. Therefore, we examine the standard assumptions of the general linear model, which we need to run both our ANOVA and PROCESS mediation analyses, including independence, normality, and homoskedasticity, but not sphericity. Namely, whether both the levels of the within-subjects' factors and the correlation among all repeated measures are equal, is only evaluated for within-subjects' variables with more than two levels, alternatively (and thus in our case) this necessarily holds.

Independence is the most essential criterion to satisfy, as the dependence of observations could detrimentally bias estimates and standard errors. Hence, our main manipulation is based on a between-subjects design – where each unit of analysis is only exposed to one coupon delivery method – as previous exposure to other treatments could infer with responses. In addition, to minimize dependence, we sample participants as randomly as possible. The outcomes for our within-subjects factor are naturally correlated as behaviour in period 1 directly affects subjects' response to the shopping scenario in period 2, however, this is accounted for by the covariance structure of our mixed ANOVA such that this is ought not to cause any problems. The independence assumption is thus satisfied, and we can proceed.

Instead of relying only on logical inference, we can empirically test the following assumptions. As an alternative to the Shapiro-Wilk test, we create a variable to generate random deviates as our data should be

randomly χ^2-distributed, used as the dependent variable of the fake analysis we run on the rest of the dataset. Namely, this test is too sensitive for large sample sizes (>50) causing low p-values to be reported for even minor departures from normality and homoskedasticity. The outcomes are then standardized to randomly distributed them around zero – and their fitted values are scaled – to plot them as a histogram and run a Q-Q plot for visual inspection of linearity to determine whether our dependent variable is normally distributed (see Appendix G). The data is centred around zero, with most values between -2 and 2 and the data points lie relatively close to the diagonal. However, in both plots we notice some skew, which we further examine by computing the skewness and kurtosis of the standardized values through a moment-based formula (see Appendix G). We find that the distribution is moderately positively skewed (0.72) and platykurtic around the mean (0.58), with values least favourable for surprise next-purchase coupons. Hair et al. (2021) suggest that a distribution is nonnormal when skewness is greater than +1 or lower than -1, and/or kurtosis is greater than +1. In addition, for large sample sizes (>30), ANOVA is robust to normality violations due to the central limit theorem. According to Lumley et al. (2002), even extreme violations of normality are not problematic for a few hundred participants, hence normality is not an issue and we can continue our analysis.

To examine the final assumption of homoscedasticity – that is, equal variance across treatment groups – we plot the fitted against the standardized values such as not to bias our standard errors (see Appendix G). Although the vertical scale is slightly off symmetry, the data shows no patterns and appears evenly distributed on the plot. For this study, a small deviation from homoskedasticity is not a significant issue as the sample sizes are similar across treatment groups, making ANOVA a robust method. Moreover, Levene's test using type III sum of squares failed to reject the null hypothesis of equal variance (p=.07). Hence, this assumption is sound and thus we proceed with the analysis.

Mixed two-way ANOVA

A two-way mixed factorial ANOVA with type III sum of squares was ran to examine the effects of coupon delivery method on purchase intent over two time periods, namely by comparing the means across treatments and periods (see Appendix H). In line with recommendations by Bakeman (2005) for reporting effect size statistics for repeated measures designs, we the generalized eta squared η_G^2 statistics here as these have the advantage of providing comparability across between- and within-subjects designs.

Purchase intent: overall

It was hypothesized that coupons overall stimulate consumers' intent to purchase, but that values for purchase intent will differ across various coupon delivery methods. In support, the results of the between-subjects effects tests yield a significant main positive effect for coupon delivery method on purchase intent ($F(2, 299)=26.15$, $p<.001$, $\eta_G^2=.09$). The overall statistically significant differences in the groups' means allows us to run post-hoc tests to confirm where the differences occurred between them through reporting both the summary statistics as well as the pairwise comparisons for purchase intent (see Table 3 and Appendix I). It was hypothesized that the average purchase intent over the two-period model is highest for advertised next-purchase coupons, followed by surprise next-purchase coupons, and lastly regular coupons.

The results indeed support our hypothesis that the overall purchase intent means significantly differ for both advertised and surprise next-purchase coupons (p<.001) compared to regular coupons ($M_{advertised}$=73.61, SE=1.51; $M_{surprise}$=67.04, SE=1.28; $M_{regular}$=59.28, SE=1.41). On top of which, the difference between the next-purchase coupons is also found to be significant (p=.001) (see Appendix I).

However, purchase intent was not only ought to differ as a result of the coupon delivery period, but also between purchase periods depending on whether the coupon will be acquired, redeemed, or neither. We observe a significant effect of time on purchase intent (F(1,299)= 38.10, p<.001, η_G^2 =.06) as well as a significant interaction between coupon delivery method and time (F(2,299)=147.77, p<.001 η_G^2 =.32). Accordingly, we examine the variations in the between-period mean differences per coupon delivery type, which we find to be significant for regular coupons (27.34, p<.001, 95% CI [22.15, 32.53]), as well as advertised (23.86, p<.001, 95% CI [18.65, 29.08]) and surprise (31.71, p<.001, 95% CI [26.52, 36.90]) next-purchase coupons (see Appendix I). Where the between-period change in mean purchase intent is thus concluded to be largest for surprise next-purchase coupons (see Table 3).

Purchase intent: per period

Now focussing more specifically on the distinction in effects between the different purchase periods. It was hypothesized that in period 1, purchase intent would be highest for regular coupons, followed by advertised and surprise next-purchase coupons. The results reveal a significant positive effect for coupon delivery method on purchase intent for period 1 (F(2, 299)=25.68, p<.001, η_G^2 =.15). Specifically, purchase intent in this purchase period is found to be significantly lower for both advertised (p<.001) and surprise next-purchase coupons (p<.001) when compared to regular coupons ($M_{advertised}$=61.68, SE=2.39; $M_{surprise}$= 51.19, SE=2.25; $M_{regular}$=72.95, SE=1.77). Moreover, the next-purchase coupon types themselves are found to differ significantly as well (p<.001) (see Appendix I).

Table 3

Summary Statistics Purchase Intent

Mean (Standard Error) Purchase intent			
	Period 1	Period 2	Overall average
Regular coupon	72.95 (1.77)	45.61 (2.19)	59.28 (1.41)
Advertised next-purchase coupon	61.68 (2.39)	85.54 (1.11)	73.61 (1.51)
Surprise next-purchase coupon	51.19 (2.25)	82.90 (1.52)	67.04 (1.28)

Alternatively, for period 2 we hypothesized those exposed to surprise next-purchase coupons to be most likely to purchase, followed by advertised next-purchase coupons, and regular coupons. We again find a significantly positive effect for coupon delivery method on purchase intent (F(2, 299)=178.98, p<.001, η_G^2 =.55). In this case, purchase intent is significantly higher for both next-purchase coupon types (p<.001) than for the regular coupon ($M_{advertised}$=85.54, SE=1.11; $M_{surprise}$=82.90, SE=1.52; $M_{regular}$=45.61, SE=2.19). We

cannot confidently conclude the difference between the next-purchase coupon types to not be zero, as it is found to be statistically insignificant (p=.27) which implies that both methods perform equally well in period 2 in stimulating consumers' purchase intent (see Appendix I).

Perceived deal value

Finally, we consider the results for the main effect of coupon delivery method on perceived deal value, where we hypothesize deal value perceptions to positively contribute to purchase intent values. In support, we find coupon delivery method to have a significantly positive main effect on purchase intent (F(2, 299)=10.67, p<.001, η_G^2 =.07). Accordingly, we find deal value perceptions to be higher for those exposed to next-purchase coupons than to regular coupons, in particular for surprise type (p<.001) than for the advertised type (p=.004) ($M_{regular}$ =5.13, SE=0.10; $M_{advertised}$=5.54, SE=0.12; $M_{surprise}$=5.78, SE=0.08). In addition, we conclude the mean difference between advertised and surprise next-purchase coupons to be marginally significant (p=.10), a classification given to effects with p-values between 0.05 and 0.1 (see Appendix I). Accordingly, the delayed discount benefit method of next-purchase coupons seems to do a better job in promoting deal value perceptions than regular coupons, and in specific for surprise next-purchase coupons for whom values are highest.

Mediation analyses

The results of our ANOVA analysis are confirmed by the PROCESS[1] mediation analyses we ran, which is an observed variable OLS and logistic regression path modelling tool widely used to estimate (in)direct effects using bootstrapping methods (Hayes, 2022). Through a series of regression analyses, our aim is to quantify to what extent this relationship is mediated by perceived deal value. The analysis was conducted twice, as our dependent variable is a repeated measure: once for purchase intent in period 1 and once for period 2 (see Appendix L). The number of bootstraps was set to 5000 and the mcx parameter to 1 such that our multicategorical treatment variable was dummy coded and replaced by two independent dummies ($X1_{regular}$ and $X2_{advertised}$; Hayes & Preacher, 2013). Accordingly, their coefficients are interpreted relatively to the treatment effects of the surprise next-purchase coupon – i.e., the constant or baseline of our analysis – set intentionally through assigning it the smallest number prior to running PROCESS (Hayes, 2022). This way, we are able to examine the variances among next-purchase coupons at different anticipation levels, which seems most interesting as their pairwise comparisons are the smallest. The same mediation analysis, but with the regular coupon as the baseline, is included in Appendix L.

Purchase intent: period 1

For period 1, the total effects show that coupon delivery method positively predicts purchase intent ($b_{regular}$=21.76, SE=3.04, p<.001; $b_{advertised}$=10.49, SE=3.04, p<.001) relative to the surprise method ($b_{surprise}$ =51.19, SE=2.15, p<.001) with R^2=0.15 (F(2,299)=25.68, p<.001). Analyzing the bootstrapped indirect effects, results reveal that perceived deal value significantly mediates the relationship between coupon

[1] PROCESS macro for R through running the 'process.r' source code written by A.F. Hayes. For installation: http://www.regorz-statistik.de/en/mediation_process_for_r.html. For more information: see (Hayes, 2022).

delivery method and purchase intent, $ab_{surprise}$=20.67 ($CI_{95\%}$ [14.98, 26.35]). In addition, whereas the relative indirect for regular coupons is significantly lower, the indirect effects for both next-purchase coupon types are the same in value as its bootstrapped confidence interval includes zero ($ab_{regular}$=-2.35, $CI_{95\%}$ [-4.64, -0.50]; $ab_{advertised}$=-0.86, $CI_{95\%}$ [-0.36, 0.17]). Coupon delivery method positively affects perceived deal value ($b_{surprise}$=5.78, SE=0.10, p<.001) with R^2=0.07 (F(2,299)=10.67, p<.001 (see Appendix L). Compared to the surprise next-purchase coupon, the effect for regular coupons significantly differs, whereas the effect for advertised next-purchase coupons only marginally significantly differs ($b_{regular}$=-0.65, SE=0.14, p<.001; $b_{advertised}$=-0.24, SE=0.14, p=.10). In turn, perceived deal value positively influences purchase intent (b=3.61, SE=1.22, p=.003). Nevertheless, the results also suggest that even after accounting for the mediating role of perceived deal value, coupon delivery method still has a positive impact on purchase intent ($b_{surprise}$=30.33, SE=7.35, p<.001) with R^2=0.17 (F(3,298)=20.50, p<.001). Again, both regular and advertised next-purchase coupons are found to significantly differ ($b_{regular}$=24.11, SE=3.10, p<.001; $b_{advertised}$=11.35, SE=3.02, p<.001) (see Appendix L). Since we have set the modelbt parameter to 1, we not only observe the bootstrapped results for the indirect paths, but for all the effects in which case violation of normality is not an issue (see Appendix L). Comparing these results, we find that their values and significances match up well.

Purchase intent: period 2

For period 2, the total effects show that coupon delivery method again positively predicts purchase intent ($b_{surprise}$ =82.90, SE=1.67, p<.001) with R^2=0.54 (F(2,299)=178.98, p<.001). But whereas regular coupons do significantly differ, advertise next-purchase coupons are found to have the same effect ($b_{regular}$=-37.29, SE=2.36, p<.001; $b_{advertised}$=2.64, SE=2.36, p=.27). From the bootstrapped indirect effects, we conclude that perceived deal value significantly mediates the relationship between coupon delivery method and purchase intent, $ab_{surprise}$=24.92 ($CI_{95\%}$ [19.98, 29.87]). The relative effect is significant for regular coupons, but not for advertised next-purchase coupons ($ab_{regular}$=-2.81, $CI_{95\%}$ [-4.35, -1.39]; $ab_{advertised}$=-1.03, $CI_{95\%}$ [-2.44, 0.20]). Perceived deal value positively influences purchase intent (b=4.32, SE=0.93, p<.001), but even after accounting for its mediating role, coupon delivery method still positively affects purchase intent ($b_{surprise}$=57.98, SE=5.59, p<.001) with R^2=0.58 (F(3,298)=134.81, p<.001) (see Appendix L). Whereas regular coupons significantly differ, the effect is the same for advertised next-purchase coupons ($b_{regular}$=-34.48, SE=2.36, p<.001; $b_{advertised}$=3.67, SE=2.30, p=.11). Hence, we identify this as a complementary partial mediation effect, since the (in)direct effects are significant and point in the same direction). Again, the bootstrapped results of the regression model parameters match the results just discussed well, only it identifies the difference between surprise and advertised next-purchase coupons in terms of purchase intent to be significant as well (namely, $CI_{95\%}$ [0.19, 7.16]).

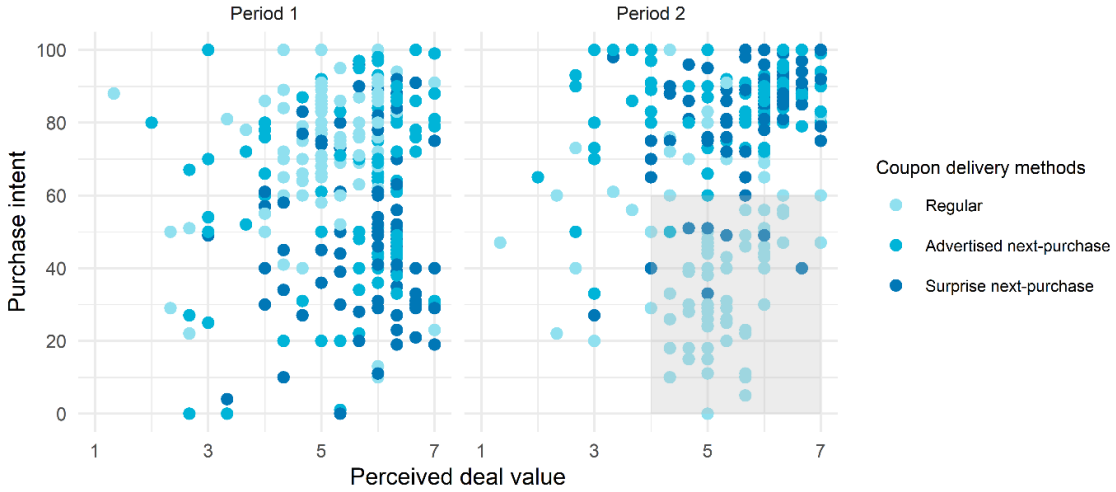
Correlation tests

Finally, we perform some tests using Pearson's product-moment correlations, to allow us to examine the relationship between perceived deal value and purchase intentions more specifically (see Appendix K). It was hypothesized that generally perceived deal value and purchase intent maintain a positive relationship.

The results reveal a significant positive main effect of perceived deal value on purchase intent (r(602)=0.20, p<.001). However, if we consider their associations per time period, their relation is insignificant for period 1 (r(300)=0.05, p=.36), while significant for period 2 (r(300)=0.34, p<.001). This lines up with our expectations as to accurately consider purchase intent at the different time periods, we must distinguish between the different coupon delivery methods. Therefore, we more specifically hypothesize perceived deal value to maintain a positive relation with purchase intent, but in period 2 for regular coupons where the association is ought to be negative. Namely, as observed in Figure 4, high deal value perceptions seem to cause lower values for purchase intent in period 2 for regular coupons. This fits our narrative that in the post-promotional period, consumers experience disappointed in the face of the contrast between their low price expectations and the relatively high actual prices of the products. Moreover, we hypothesize the correlations to be strongest in the redemption period for each coupon type.

Figure 4

Relationship Perceived Deal Value and Purchase Intent



Note. Grey rectangle highlights that in period 2, high perceived deal values for regular coupons seem to translate into lower purchase intent values in comparison to the other coupon delivery methods.

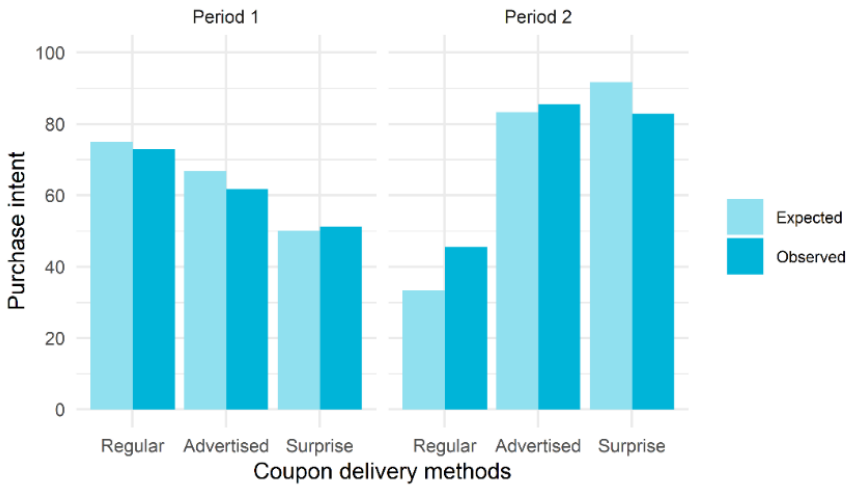
For period 1, the results reveal that regular coupons and advertised next-purchase coupons are moderately positively associated with purchase intent ($r_{regular}$(99)=0.24, p=.02) and advertised next-purchase coupon ($r_{advertised}$(98)=0.22, p=.03), while for surprise next-purchase coupons we found no significant correlation ($r_{surprise}$(99)=0.03, p=.79). For period 2, the perceived deal value and purchase intent are most strongly associated for surprise next-purchase coupons, followed by the advertised method ($r_{surprise}$(99)=0.42, p<.001; $r_{advertised}$(98) =0.34, p<.001). However, we did not find an association for regular coupons in the second period, neither positive nor negative, such that we are unable to make any causal claims ($r_{regular}$(99)=0.16, p=.11). Accordingly, the former hypothesis was only partially accepted, whereas we were not able to find support for our second hypothesis.

Discussion

In Figure 5, we summarize our prior expectations for purchase intent means for each coupon delivery period per purchase period, in contrast to the observed values as resulted from our analysis. Specifically, it illustrates the results for Hypothesis 3a, of which – similarly as for the other hypotheses – we present an overview in Table 4 along with its theoretical support as discussed in the theoretical framework and whether the hypothesis is accepted or rejected, followed up by evidence from the results. Hypothesis 2 was the only hypothesis that was not fully confidently validated by our experiment. Namely, the additional increase in perceived deal value for surprise next-purchase coupons through its personalized surprise effect and the delayed subtraction of the discount benefit in the re-evaluation of the initial purchase decision, was not as large as we suspected. The weaker effect may be explained by the hypothetical nature of our experiment's shopping scenarios, such that the anticipated emotional responses to the price promotion are not as strong as they would be in reality. Moreover, there is a somewhat milder version of the surprise effect embedded in advertised next-purchase coupons as well, as when advertised on the product shelves, consumers equally did not expect to be offered such deals. This could have similar effects for period 2.

Figure 5

Comparison Expected and Observed Purchase Intent Values



Note. Purchase intent expectations are those from Figure 3, but here rescaled to 100-points.

General discussion

Goal thesis

In what manner should price promotion offers as coupons be communicated such as to most (effectively) stimulate the outcomes desired by retailers and brands? This thesis sought to develop a deeper understanding of how consumers' value perceptions, particularly for next-purchase coupons, translate into purchase intentions for the periods of coupon acquisition and coupon redemption. Unlike regular coupons, next-purchase coupons are redeemable towards a subsequent purchase at the issuing retailer than the initial purchase, and thus require an additional future purchase to redeem the savings. We built predictions

Table 4

Summary of Hypotheses, Support, Results and Evidence

	Hypotheses	Support	Result	Evidence
1a	Higher perceived deal value for next-purchase than regular coupons	▪ Next-purchase coupons tailored to previous purchases. ▪ Double mental discounting cause lower cost perceptions and higher perceived savings.	**Supported**	▪ Advertised – regular = 0.41 (p=.004, 95% CI [0.13, 0.69]) ▪ Surprise – regular = 0.65 (p<.001, 95% CI [0.37,0.93])
1b	Higher perceived deal value for next-purchase coupons offered as a surprise than advertised	▪ For surprise next-purchase coupons deal already attractive in period 1 without discount, with even higher value. ▪ Surprise next-purchase coupon enjoys 'personalized surprise effect'.	**Weakly supported** (*marginally significant*)	▪ Surprise – advertised = b=0.24 (SE=0.14, p=.10, 95% CI [-0.04,0.52])
2	As perceived deal value increases, purchase intent increases accordingly in promotional period	▪ In promotional period consumers want to benefit from perceived savings, thus stimulating purchase intent.	**Supported**	Effect perceived deal value on purchase intent in period 1 = b=3.61 (SE=1.22, p=.003, 95% CI [1.21,6.01])
3a	For a two-period model, purchase intent is higher overall for next-purchase than regular coupons	▪ High perceived deal value causes discrepancy between actual and anticipated prices for regular coupons, causing disappointment. ▪ High purchase intent for next-purchase coupons in period 2 because of their 'surprise element' causing positive retailer/brand perceptions. ▪ Next-purchase coupons cause sunk cost effect, causing escalation of commitment to redeem coupon in period 2.	**Supported**	Overall: ▪ Advertised – regular = 14.38 (p<.001, 95% CI [10.42, 18.23]) ▪ Surprise –regular= 7.76 (p<.001, 95% CI [3.87, 11.66]) Period 1: ▪ Regular – advertised = 11.27 (p<.001, 95% CI [5.28, 17.26]) ▪ Regular – surprise = 21.76 (p<.001, 95% CI [15.79, 27.74]) Period 2: ▪ Advertised – regular = 39.93 (p<.001, 95% CI [35.27, 44.58]) ▪ Surprise – regular = 37.29 (p<.001, 95% CI [32.65, 41.93])
3b	For a two-period model, purchase intent is higher overall for advertised next-purchase coupons than offered as a surprise	▪ For surprise next-purchase coupons could not have integrated additional benefit in purchase decision (like for advertised next-purchase coupons). ▪ Between-period increase in purchase intent for surprise next-purchase coupons cannot make up for this difference.	**Supported**	Overall: ▪ Advertised – surprise = 6.57 (p=.001, 95% CI [2.66, 10.47]) Period 1: ▪ Advertised – surprise = 10.49 (p<.001, 95% CI [4.50, 16.48]). Period 2: ▪ Surprise – advertised = 2.64 (p=.27, 95% CI [-2.01, 7.29]).

regarding the effects of timing of the discount benefit (regular vs. next-purchase) and of the anticipation level of the next-purchase coupons (advertised vs. surprise) on value perceptions and purchase intentions at different purchase occasions. A limited amount of attention has been given to the impact of differentiating the timing of the coupon's discount benefit in previous research. However, by demonstrating its potential to provide novel theoretical insights and practical implications, we hopefully encourage further research in this area.

A mixed two-way factorial ANOVA was performed on the results of the experiment to examine the effects of the following coupon delivery methods: regular, advertised next-purchase and surprise next-purchase. There are obviously also other types that could be discussed, however, Cheng and Cryder (2018) suggest that the next-purchase coupon type optimally stimulates coupling – as opposed to cashbacks, mail-in rebates, and discounts – since the financial sacrifice (i.e., paying for the initial purchase) is immediately followed by a delayed reward (i.e., receiving the coupon upon checkout). Hence, we follow their suggestion in hopes of the double mental discounting effects to be most apparent in our data.

Main takeaways study

In support of Hypothesis 1, our results demonstrate that the mean perceived deal value score is higher for next-purchase coupons than regular coupons. Namely, next-purchase coupons which are based on previous purchases are therefore often better tailored to consumer's needs, so that the discount will be of more value to them. Also, this coupon type is strongly coupled with both purchase periods, thereby crowding in double mental discounting effects as described by Cheng and Cryder (2018). Consumers tend to mentally deduct the benefit (which only applies to period 2) from the purchase price for both purchase periods, thereby lowering their cost perceptions so that the coupon's perceived deal value seems higher than for a regular coupon that offers the same deal directly. Hypothesis 2 explored whether this perceived deal value in turn would also positively impact purchase intent, for which we found support as also our intuition would suggest: when a deal is perceived as having a large value, consumers will be more inclined to take advantage of it. These results suggest that perceived deal value is indeed a meaningful mediator in our model as it partially mediates the treatment's effects on purchase intent.

In accordance with findings by Chatterjee (2007), we distinguish between two types of next-purchase coupons: advertised (i.e., attenuated on product shelves) and surprise, which are both acquired only after the first purchase is made and have the same objective value (i.e., the only difference being when the consumer is informed on the coupon). As supported by our findings, Hypothesis 3a proposes that average purchase intent over two subsequent purchase occasions will be higher for next-purchase as opposed to regular coupons. We find that for regular coupons, purchase intent is high in period 1 while low in period 2, whereas the opposite holds for next-purchase coupons, which is as we would expect. For regular coupons, purchase intent drops to such an extent in period 2 that this is detrimental to its overall purchase intent over the two-period model, as it even drops significantly below the mean value for a non-promotional period which can be attributed to consumers lowering their price expectations in period 1 because of the price promotion. Such

that, when prices go back up to their original levels in period 2, they feel disappointed and are significantly less likely to purchase. Furthermore, those exposed to the next-purchase coupon may perceive the purchase in period 1 as an investment for future savings, increasing their commitment to redeem the coupon to not incur the sunk cost. Further specifying the prior hypothesis, Hypothesis 3b predicts that the two period-average purchase intent is higher for advertised than surprise next-purchase coupons. As supported by our results, the difference is mainly due to between-treatment differences in intent in period 1, as intent does not significantly differ between these coupon types in period 2. Whereas those exposed to the advertised next-purchase coupon already integrate the coupon's utility in the product purchase decision at the shelves, those in the surprise next-purchase coupon treatment are prepared to pay the full price for the product, causing some to argue that offering this last group a coupon will cause these consumers to be over-benefited as they already perceive the net value from purchasing the product to be positive (Gourville & Soman, 1998). However, the results demonstrate that the overall purchase intent for surprise next-purchase coupons is still higher than when offering no price promotion, so that it is not a waste of resources.

Theoretical implications

An extensive body of literature has studied the psychological aspects of pricing, where the main idea is that consumers are influenced by behavioural biases that cause them to perceive otherwise identical objects differently based on external cues. Krishna et al. (2002) categorized the factors that contribute to these biases into two categories: situational effects (i.e., in what situation the offer is presented) and price framing (i.e., how the offer is communicated). Our study contributes to the research on framing effects in marketing by analysing the effects of discount benefit timing and its advertised or surprise nature on value perceptions and purchase intentions. Prior research has concentrated on regular price promotion tools applicable to the current period, but has not yet explored the implications of delayed the discount benefit in the context of next-purchase coupons. Essentially, all coupon types that we study offer the same benefit – which is, €25 off a purchase with a minimum value of €50 – where for next-purchase coupons the benefit does not apply directly but to a subsequent period, which favours regular coupons in terms of inter-temporal choice. Namely, which theory argues that receiving €25 now as opposed to in a week for instance is worth more. However, we find that perceived deal value is highest for next-purchase coupons, similarly to the results in terms of purchase intent. In this way, we add to research into the effect of the temporal separation of costs and benefits on consumption behaviour, a topic previously examined by for instance Gourville and Soman (1998).

Accordingly, our study connects two very interesting recent concepts – double mental discounting applied in the context of various anticipation levels for next-purchase coupons – in the price promotions literature, which have not yet been studied extensively and merit more attention and deeper investigation. Studies by Cheng and Cryder (2018) and Chatterjee (2007) have respectively studied these topics - and thus the effectiveness of various coupon delivery methods - in terms of choice, purchase amounts for current as well as future purchases, and satisfaction. Therefore, our study of purchase intentions is novel in this context,

similarly to including perceived deal value as a mediator in our model. Namely, the closest metric that Cheng and Cryder (2018) considered was the measurement of customer store satisfaction. Chatterjee (2007) did consider a similar perceived promotion value variable, however, as a dependent variable measure for the effects of restrictions to next-purchase coupons.

Practical implications

In one sense, our findings are managerially relevant, since retailers and brands will be able to better manage their price promotion tools and improve upon their retail strategies when they understand what types of coupons or frames generate the highest perceived deal value and purchase intentions. Namely, by activating cognitive biases that will change and direct consumers' behaviour and perceptions in their favour, retailers can influence consumers' value perceptions without having to increase the depth of the promotion and without spending any money (i.e., by just 'tricking' consumers in the process). In turn, there appears to be an overall increase in spending through which price promotion effectiveness and receptivity are optimized, which appears to be an obvious advantage for retailers and brands. As retailers rarely aim to encourage only a single purchase, this notion is considered in a two-period context. This underlines the need for marketing managers to understand how these processes work so that they know what is happening in their consumers' minds when various price promotions are run, and this paper among others may offer them that understanding.

Therefore, contributing to current knowledge of next-purchase coupons now also academically in hypothesized retail environments, we help to further promote them as an increasingly important promotion tool which not only contributes to short-term sales through promoting customer acquisition and increasing coupon redemption rates. Namely, in the long-run it also builds customer loyalty, which effects are amplified through the increased personalization of coupons when comparing next-purchase to the regular coupon delivery method as they are characteristically based on previous purchases. Our results thus suggest that retailers should employ advertised next-purchase coupons more often instead of regular coupons, since their values for purchase intent consistently remain in a higher range for a long period of time. Consequently, brand and retailer perceptions are also to a greater extent protected from negative quality inferences, as we would observe for the constant availability of products on sale. Moreover, the next-purchase coupon is perceived as an effective tool in identifying committed consumers, since this coupon type appears to be the most attractive to consumers who are likely to return (Cheng & Cryder, 2018).

Limitations and possible extensions

Despite the implications discussed above, there are still a few issues to be addressed, which limitations seem to go hand in hand with some possibilities for future research. Firstly, our study considers intentions as its dependent variable, while some might argue that purchase intentions do not accurately represent actual purchase behaviour, especially since our experiment is hypothetical. Thus, the validity of our results could possibly be improved if we measured a more concrete variable, that is not a binary variable, or by

performing a field experiment instead. Understandably, this may be very difficult to arrange as it would require a lot of resources, so each of these improvements seems to come with their own challenges.

Second, we included just two purchase occasions in our model. However, ideally, we would want to study these effects for a longer period to ensure that in period 3, when neither regular nor next-purchase coupons offer any promotional benefits, purchase intent for next-purchase coupons will not suddenly decrease so much that it will not end up being the overall best option after all. Also, to ensure that consumers' responses were not influenced by previous (negative) experiences with a brand, we restricted their attention to situations where they bought from unknown brands during the experiment. This way, they had no internal reference price associated with the product, such that the regular price information provided was their sole source of price information (i.e., their external reference price). It may be interesting to explore whether coupons will be more readily redeemed by consumers who have purchased the product or one similar before in future research, as they may have formed an internal reference price for the product. Future research can explore this question further.

To change the nature of the experiment more drastically, future research could consider conducting a similar study to compare regular coupons with rebates, where we could distinguish between advertised and surprise rebates. Namely, any type of monetary gain can be applied to offset costs or losses when the situation couples the gain with multiple expenditures, so why not extend this research to rebates which too are currently still academically undervalued. Moreover, this would facilitate the exploration of double mental discounting on a broader scale, as opposed to doing the same study also for next-purchase coupons, as our and Cheng and Cryder's (2018) study did.

Additionally, it may be valuable to consider the differentiation in framing discount benefits in percentual versus monetary terms as a moderator in our model for the relationship between coupon delivery method and perceived deal value, whereas we used a monetary framing for all treatments. Despite this differentiation being a hot topic in the promotions literature, these findings have never been applied to next-purchase coupons, which may have actual potential. The subsequent monetary or percentual framing of the discount benefit is another factor that influences the implications of double mental discounting through its effect on the processing difficulty of the discount benefit and thus the ease of coupling as a prerequisite for the phenomenon to take place. Due to its lower processing fluency, percentual-framed discounts will make subtracting the benefit from the purchase price more difficult than monetary discounts, resulting in the purchase price being adjusted to a lesser extent in response to price discounts and the perception of deal value not being stimulated as much. Therefore, this may result in a lot of valuable implications for perceived deal value and purchase intent.

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Appendix A

Coupon examples

Regular coupons

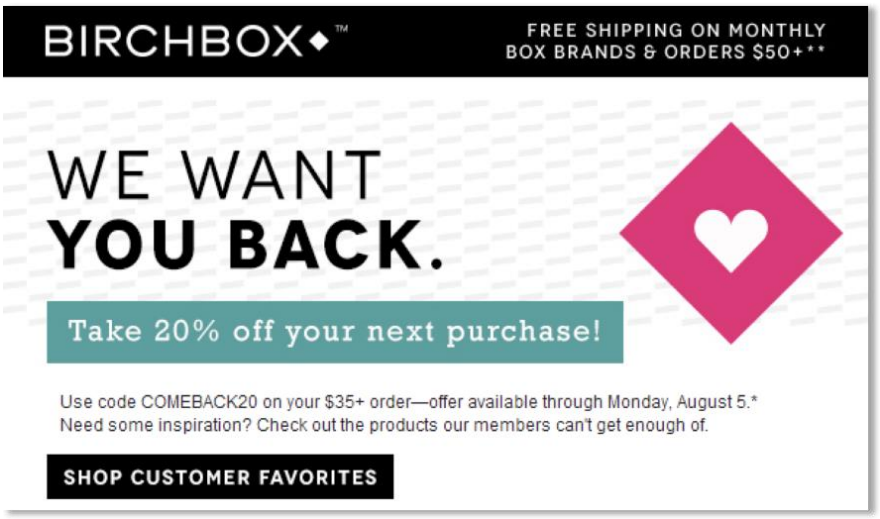
Grocery store

Toy retailer

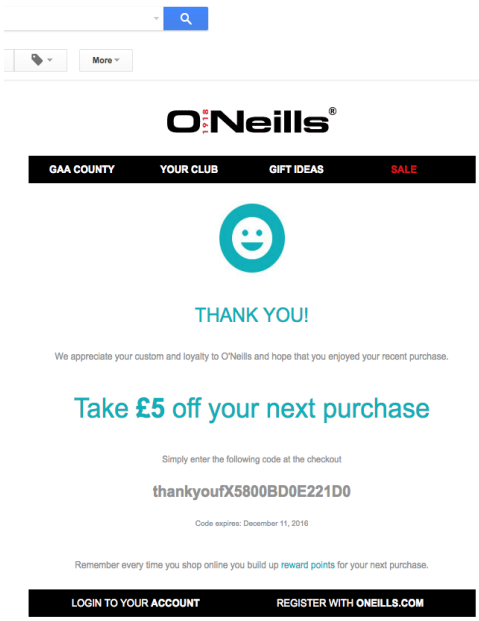
Video game retailer

Next-purchase coupons

Box subscription service



Sports apparel



Restaurants

Appendix B

Set-up of the experiment

Part 1: Introduction

Introduction

Dear participant,

This questionnaire is part of a research study for my master's thesis in **Marketing Analytics** at **Tilburg University**, regarding the use of price promotions. Your support in this process is much appreciated!

I would like to thank all participants in this study by donating €0,15 per complete response to the **Emergency Fund for Tilburg University Students**. This cause supports students that are not only extremely worried about their family and friends, but are also experiencing acute financial hardship due to the current war in Ukraine. For more information, visit: https://www.tilburguniversity.edu/collaboration/gift-knowledge/education/emergency-fund.

Completing the questionnaire will take no longer than 5 minutes. It would be highly appreciated if you would answer the questions on the following pages according to your own conviction, as there are no right or wrong answers. The data collected through this questionnaire will only be used for this research project and will be treated confidentially and anonymously.

Kind regards,

Daniëlle van Bruggen

(next page)

Reiteration to pay attention

Please, to the best of your ability, imagine the following scenarios to be reality. Also, make sure to read the text and questions *carefully*.

If you are unable to proceed to the next page, you are likely reading too fast. Patiently wait and do not refresh the page: the submit button will appear promptly.

(next page)

Part 2: Random allocation and exposure to stimulus

Regular coupon (T1)

Assume today is April 1st.

Your favourite clothing store 'Rufous' (a physical store without a web shop) has just released its new mobile app. You decide to install the app to be notified of the release of new collections and special offers. Upon opening the app, you are presented with the following coupon. Great! **€25** off your next purchase at the Rufous store (*minimum purchase value = €50, valid until May 1st 2022*) when you show the coupon to the cashier at checkout. That may come in handy later on...

(next page)

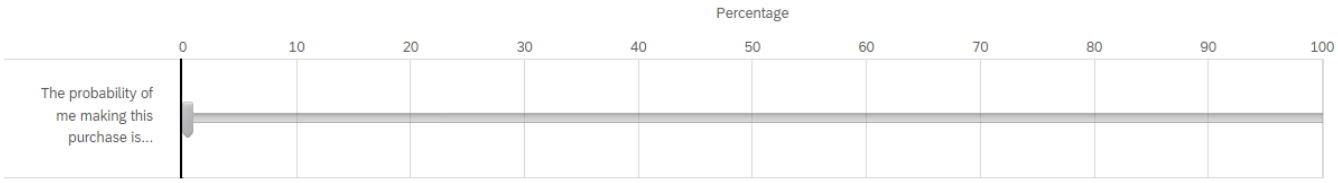
Assume it is now a week later, April 8th.

You are on a shopping trip to Eindhoven. It is the beginning of April and the weather is gradually getting more comfortable. Therefore, you are looking for items to add to your spring/summer wardrobe. You walk past your favourite clothing store *Rufous* and decide to go take a look inside...

(next page)

Inside the store, you try on some pieces of clothing and find *a pair of sneakers* that seems to fit you and your style perfectly. This pair of sneakers is from the brand *'Debute'* and is priced **€105**. You remember that a week before, you found a coupon for €25 off your next purchase in their mobile app, which you have not used yet. You contemplate whether to buy the pair of sneakers...

How likely would you now be to purchase this pair of sneakers?

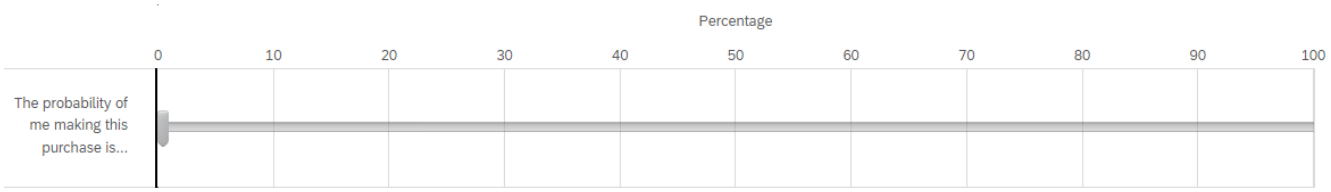


(next page)

Assume it is now three months later, August 10th.

It has been three months since your last visit to Rufous and you find yourself browsing through your favourite clothing store again. You stumble upon a *shirt* from the brand *'Debute'* that you really like, priced **€55**. Again, you contemplate whether you would like to purchase this shirt...

How likely would you now be to purchase this shirt?



(next page)

Here you see the same coupon as was presented to you before.

Please indicate to what extent you agree with the following statements:

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly agree
The amount of discount offered by this coupon represents large savings	○	○	○	○	○	○	○
The amount of money that customers would save with this coupon is very large	○	○	○	○	○	○	○
The amount of discount stated by this coupon is very high	○	○	○	○	○	○	○

(next page)

Towards which purchase(s) could you use/redeem the coupon you received?

- ○ Only the sneakers (purchase 1)
- ○ Only the shirt (purchase 2)
- ○ Both the sneakers and shirt (purchase 1 and 2)

(next page)

Advertised next-purchase coupon (T2)

Assume today is April 8th.

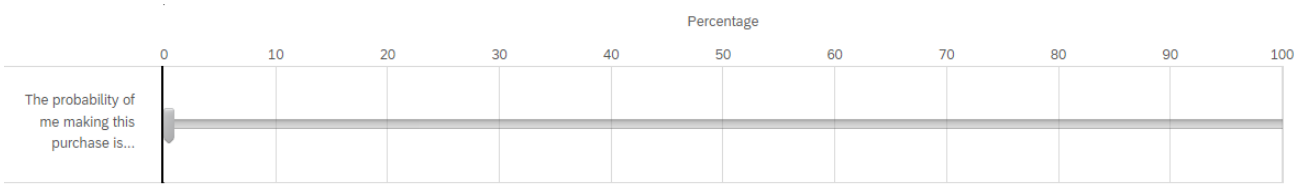
You are on a shopping trip to Eindhoven. It is the beginning of April and the weather is gradually getting more comfortable. Therefore, you are looking for items to add to your spring/summer wardrobe. You walk past your favourite clothing store *'Rufous'* (a physical store without a web shop) and decide to go take a look inside...

(next page)

Inside the store, you try on some pieces of clothing and find a *pair of sneakers* that seems to fit you and your style perfectly. This pair of sneakers is from the brand *'Debute'* and is priced **€105**. The following sign next to the sneakers on the product display catches your eye.

You contemplate whether to buy the pair of sneakers...

How likely would you now be to purchase this pair of sneakers?



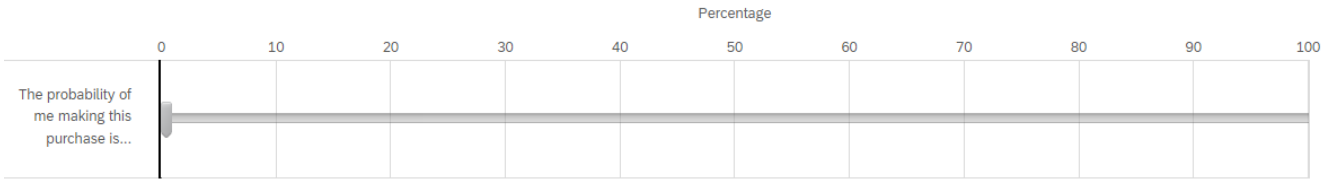
(next page)

Assume you purchased the pair of sneakers, regardless of your answer to the previous question.
Rufous thanks you for your purchase at their store and gifts you a coupon for **€25** off your next purchase from the brand Debute (*minimum purchase value = €50*). They transfer the coupon to your account on their mobile app that you had previously installed on your phone. To redeem, you simply show the coupon to the cashier when checking out your next purchase. Great! That may come in handy later on...

(next page)

Assume it is now three months later, August 10th.
It has been three months since your last visit to Rufous and you find yourself browsing through your favourite clothing store again. You stumble upon a *shirt* from the brand *'Debute'* that you really like, priced **€55**. You remember that with your previous purchase, you received a coupon for €25 off your next purchase from Debute, which you have not used yet. Again, you contemplate whether you would like to purchase this shirt...

How likely would you now be to purchase this shirt?



(next page)

Here you see the same coupon as was presented to you before.

Please indicate to what extent you agree with the following statements:

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly agree
The amount of discount offered by this coupon represents large savings	○	○	○	○	○	○	○
The amount of money that customers would save with this coupon is very large	○	○	○	○	○	○	○
The amount of discount stated by this coupon is very high	○	○	○	○	○	○	○

(next page)

Towards which purchase(s) could you use/redeem the coupon you received?

- ○ Only the sneakers (purchase 1)
- ○ Only the shirt (purchase 2)
- ○ Both the sneakers and shirt (purchase 1 and 2)

(next page)

Surprise next-purchase coupon (T3)

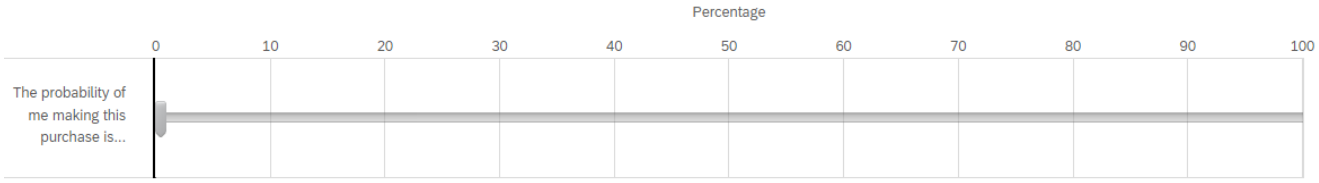
Assume today is April 8th.

You are on a shopping trip to Eindhoven. It is the beginning of April and the weather is gradually getting more comfortable. Therefore, you are looking for items to add to your spring/summer wardrobe. You walk past your favourite clothing store *'Rufous'* (a physical store without a web shop) and decide to go take a look inside...

(next page)

Inside the store, you try on some pieces of clothing and find a *pair of sneakers* that seems to fit you and your style perfectly. This pair of sneakers is from the brand *'Debute'* and is priced **€105**. You contemplate whether to buy the pair of sneakers...

How likely would you now be to purchase this pair of sneakers?



(next page)

Assume you purchased the pair of sneakers, regardless of your answer to the previous question.

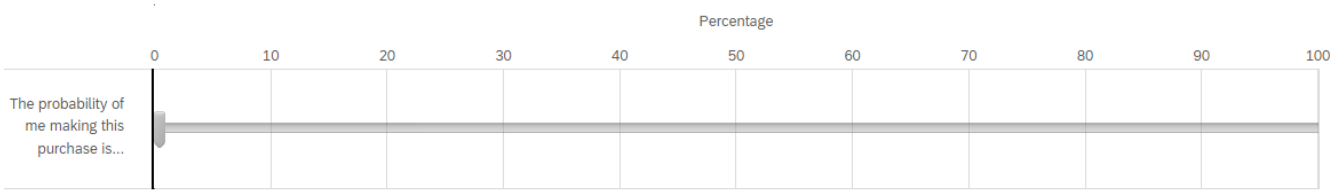
Rufous thanks you for your purchase at their store and gifts you a coupon for **€25** off your next purchase from the brand *Debute* (*minimum purchase value = €50, valid from April 15th*). They transfer the coupon to your account on their mobile app that you had previously installed on your phone. To redeem, you simply show the coupon to the cashier when checking out your next purchase. Great! That may come in handy later on...

(next page)

Assume it is now three months later, August 10th.

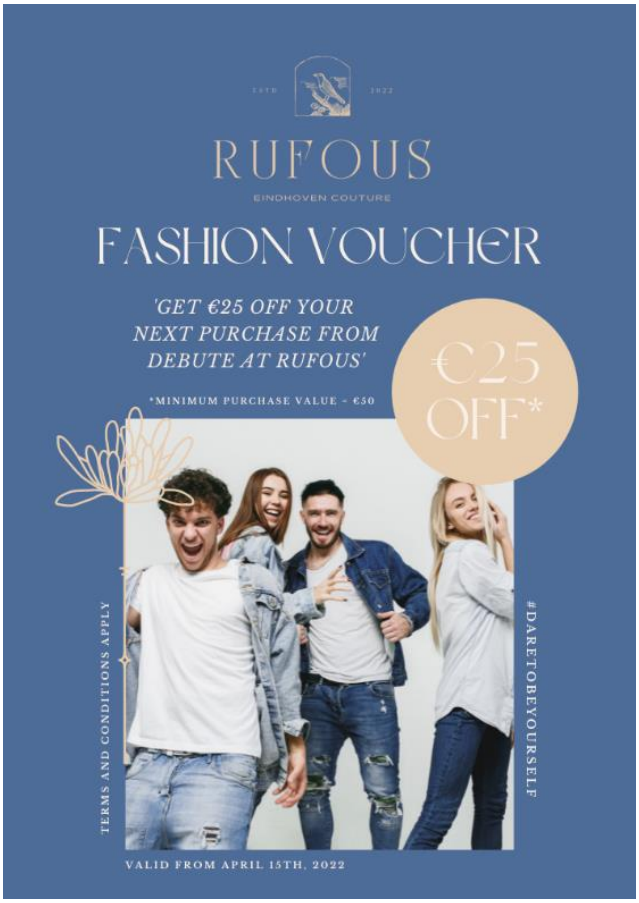
It has been three months since your last visit to Rufous and you find yourself browsing through your favourite clothing store again. You stumble upon a *shirt* from the brand *'Debute'* that you really like, priced **€55**. You remember that with your previous purchase, you received a coupon for **€25** off your next purchase from Debute, which you have not used yet. Again, you contemplate whether you would like to purchase this shirt...

How likely would you now be to purchase this shirt?



(next page)

Here you see the same coupon as was presented to you before.



Please indicate to what extent you agree with the following statements:

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly agree
The amount of discount offered by this coupon represents large savings	○	○	○	○	○	○	○
The amount of money that customers would save with this coupon is very large	○	○	○	○	○	○	○
The amount of discount stated by this coupon is very high	○	○	○	○	○	○	○

(next page)

Towards which purchase(s) could you use/redeem the coupon your received?

- ○ Only the sneakers (purchase 1)
- ○ Only the shirt (purchase 2)
- ○ Both the sneakers and shirt (purchase 1 and 2)

(next page)

Part 3: Demographics

What gender do you identify as?

- ○ Male
- ○ Female
- ○ Non-binary / third gender
- ○ Prefer not to say

What is your age?

- ○ 0-15 years old
- ○ 15-30 years old
- ○ 30-45 years old
- ○ 45-60 years old
- ○ 60+
- ○ Prefer not to say

Appendix C

Comparison Coupon Design Treatments

Coupon designs per treatment

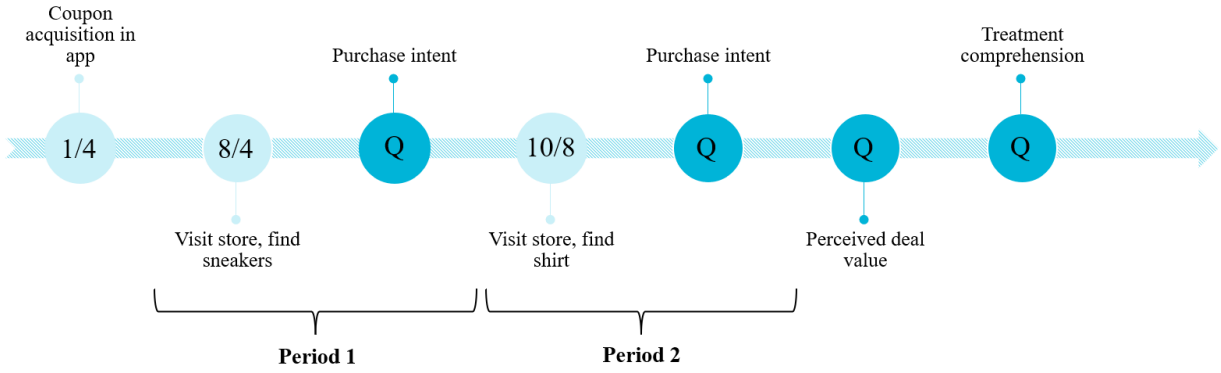
Regular coupon

Advertised next-purchase coupon

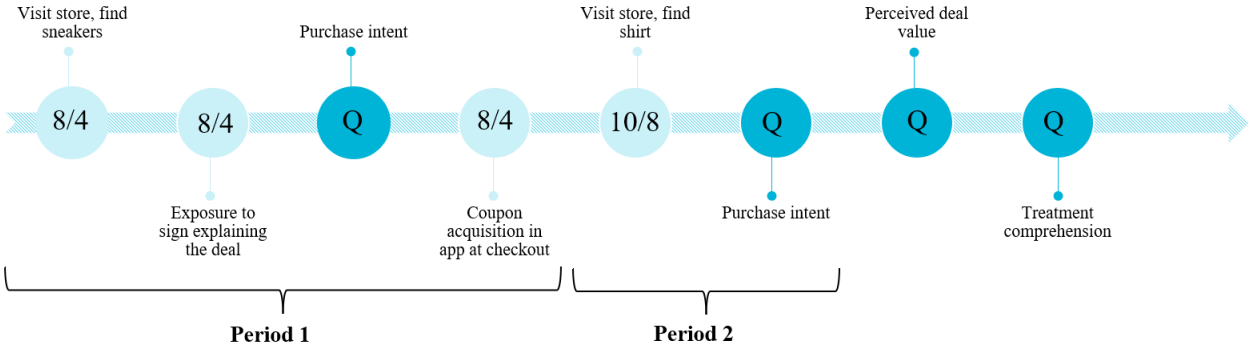
Surprise next-purchase coupon

Comparison of the series of events between treatments

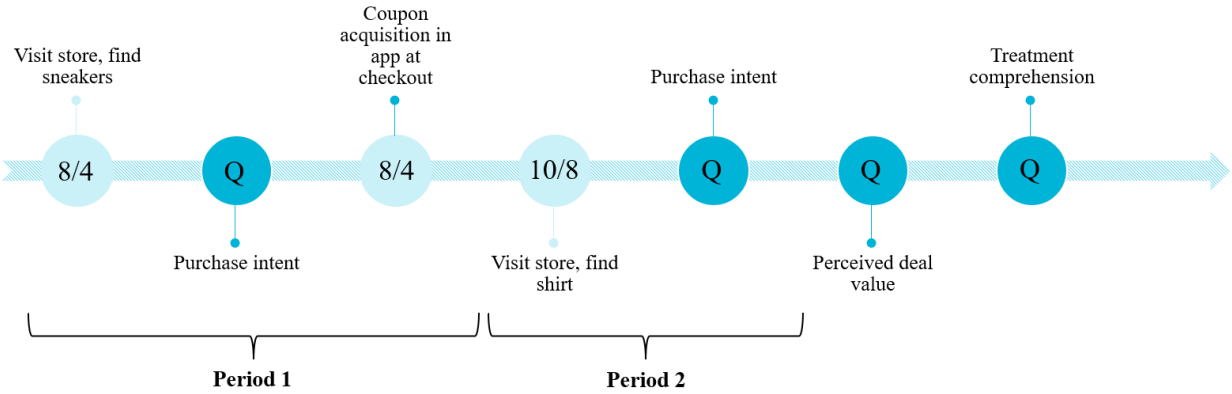
Regular coupon



Advertised next-purchase coupon



Surprise next-purchase coupon



Note. The 'Q' indicates a question, the other milestones are events in the scenario where the numbers indicate dates.

Appendix D

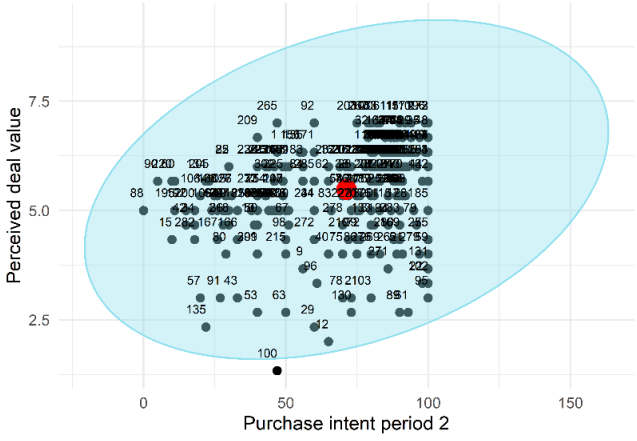
Outlier detection: Mahalanobis Distance

Ellipse plots

Purchase intent period 1 vs period 2

Purchase intent period 1 vs perceived deal value

Purchase intent period 2 vs perceived deal value



Note. The outline of the ellipses is equivalent to the cut-off or critical χ^2-value, such that the outliers are ought to fall outside the ellipses in the plots.

Appendix E

Randomization/independence checks (Pearson χ^2 test)

Comprehension check

	Comprehension check: Frequencies		
	Regular coupon	Advertised next-purchase coupon	Surprise next-purchase coupon
Correct	74	82	80
Incorrect	27	18	21

Gender

	Gender: Frequencies		
	Regular coupon	Advertised next-purchase coupon	Surprise next-purchase coupon
Female	65	61	61
Male	33	35	34

Note. Excluding the third gender and prefer not to say categories.

Age

	Age: Frequencies		
	Regular coupon	Advertised next-purchase coupon	Surprise next-purchase coupon
15-30	37	37	33
30-45	30	20	27
45-60	24	25	31
60+	6	11	6

Note. Excluding the 0-15 and prefer not to say categories.

Appendix F

Goodness of fit tests (χ^2 tests for given probabilities)

Gender

	Gender	
	Observed N* (%)	Expected (%)
Female	187 (64.47)	50.29
Male	102 (35.29)	49.71

Note. Excluding the third gender and prefer not to say categories.

Age

	Age	
	Observed N	Expected (%)
0-15	11	954278 (6.12)
15-30	107	3272163 (20.99)
30-45	77	3214063 (20.62)
45-60	80	3682262 (23.63)
60+	23	4463467 (28.64)

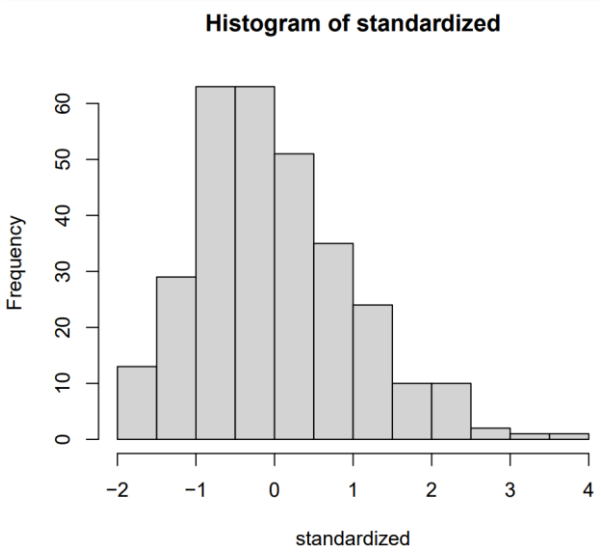
Note. The probabilities are based on demographic data of the Netherlands for 2021 as published by Statista Research Department. We exclude those below the age of 10 or above 90 as these are not relevant for our sample, and the prefer not to say category.

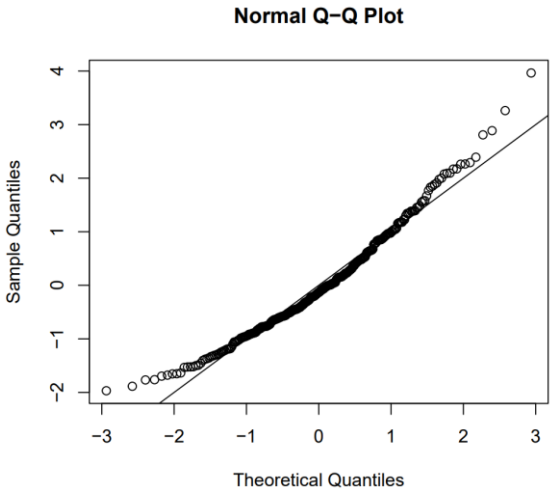
Appendix G

ANOVA assumptions

Normality

Histogram and QQ-plot



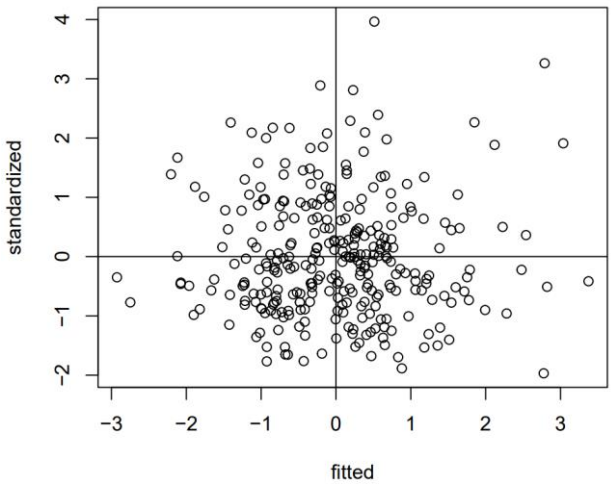


Skewness and kurtosis

Treatment	**Skewness** (standardized)	**Kurtosis** (standardized)
1	0.5658	0.0278
2	0.6700	-0.06706
3	0.9430	2.54327

*Overall values = skewness = 0.7155. Kurtosis = 0.5799.

Homoskedasticity



Appendix H

Two-way mixed ANOVA (type III sum of squares)

Tests of between-subjects effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	2682687.312	1	2682687.312	6781.789	<.001	.958
Treatment	20684.839	2	10342.419	26.145	<.001	.149
Error	118276.095	299	395.572			

Tests of within-subjects' effects (sphericity assumed)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Time	13376.378	1	13376.378	38.103	<.001	.113
Time*treatment	103750.333	2	51875.167	147.766	<.001	.497
Error(time)	104967.634	299	351.062			

Generalized eta squared values effects

Effect	DFn	DFd	F	p	Ges
Treatment	2	299	26.14546	<.001	0.08479876
Time	1	299	38.10257	<.001	0.05653103
Treatment:time	2	299	147.76626	<.001	0.31728507

Post hoc tests: Multiple comparisons (Tukey HSD)

(I) treatment	(J) treatment	Mean difference (I-J)	Std. Error	Sig.	95% confidence interval	
					Lower bound	Upper bound
T1	T2	-14.33*	1.984	<.001	-19.00	-9.65
	T3	-7.76*	1.979	<.001	-12.42	-3.10
T2	T1	14.33*	1.984	<.001	9.65	19.00
	T3	6.57*	1.984	.003	1.89	11.24
T3	T1	7.76*	1.979	<.001	3.10	12.42
	T2	-6.57*	1.984	.003	-11.24	-1.89

Based on observed means.
The error term is Mean Square(Error) = 197.786
*The mean difference is significant at the .05 level.

Post hoc tests: Homogenous subsets (Tukey HSD)

		Subset		
Treatment	N	1	2	3
T1	101	59.28		
T3	101		67.04	
T2	100			73.61
Sig.		1.000	1.000	1.000

Means for groups in homogenous subsets are displayed. Based on observed means.
The error term is Mean Square(Error) = 197.786.
a.Uses Harmonic Mean Sample Size = 100.664
b.The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.
c.Alpha=.05

Appendix I

Pairwise comparisons (simple contrasts)

Between-treatment differences in perceived deal value

Dependent variable: value_avg

(I) treatment	(J) treatment	Mean difference (I-J)	Std. Error	Sig[b].	95% confidence interval for difference[b]	
					Lower bound	Upper bound
T1	T2	-.411*	.143	.004	-.692	-.130
	T3	-.650*	.142	<.001	-.930	-.370
T2	T1	.411*	.143	.004	.130	.692
	T3	-.239	.143	.095	-.520	.042
T3	T1	.650*	.142	<.001	.370	.930
	T2	.239	.143	.095	-.042	.520

Based on estimated marginal means

* The mean difference is significant at 0.05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments)

Between-treatment differences in purchase intent per period

Dependent variable: intent

Time	(I) treatment	(J) treatment	Mean difference (I-J)	Std. Error	Sig.[b]	95% confidence interval for difference[b]	
						Lower bound	Upper bound
1	T1	T2	11.270*	3.045	<.001	5.278	17.263
		T3	21.762*	3.037	<.001	15.785	27.739
	T2	T1	-11.270*	3.045	<.001	-17.263	-5.278
		T3	10.492*	3.045	<.001	4.500	16.484
	T3	T1	-21.762*	3.037	<.001	-27.739	-15.785
		T2	-10.492*	3.045	<.001	-16.484	-4.500
2	T1	T2	-39.926*	2.364	<.001	-44.578	-35.274
		T3	-37.287*	2.358	<.001	-41.927	-32.647
	T2	T1	39.926*	2.364	<.001	35.274	44.578
		T3	2.639	2.364	.265	-2.013	7.291
	T3	T1	37.287*	2.358	<.001	32.647	41.927
		T2	-2.639	2.364	.265	-7.291	2.013

Based on the estimated marginal means

*The mean difference is significant at the .05 level.

b Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments)

Between-period differences in purchase intent for each coupon delivery method

Dependent variable: intent

Treatment	(I) time	(J) time	Mean difference (I-J)	Std. Error	Sig.[b]	95% confidence interval for difference[b]	
						Lower bound	Upper bound
T1	1	2	27.337*	2.637	<.001	22.148	32.525
	2	1	-27.337*	2.637	<.001	-32.525	-22.148
T2	1	2	-23.860*	2.650	<.001	-29.075	-18.645
	2	1	23.860*	2.650	<.001	18.645	29.075
T3	1	2	-31.713*	2.637	<.001	-36.902	-26.524
	2	1	31.713*	2.637	<.001	26.524	36.902

Based on estimated marginal means

*The mean difference is significant at the .05 level.

b Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Between-treatment differences in overall average purchase intent

Dependent variable: intent_avg

(I) treatment	(J) treatment	Mean difference (I-J)	Std. Error	Sig[b].	95% confidence interval for difference[b]	
					Lower bound	Upper bound
T1	T2	-14.328*	1.984	<.001	-18.232	-10.424
	T3	-7.762*	1.979	<.001	-11.657	-3.868
T2	T1	14.328*	1.984	<.001	10.424	18.232
	T3	6.565*	1.984	.001	2.661	10.470
T3	T1	7.762*	1.979	<.001	3.868	11.657
	T2	-6.565*	1.984	.001	-10.470	-2.661

Based on estimated marginal means

* The mean difference is significant at the 0.05 level

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments)

Appendix J

Analysis excluding failed comprehension checks

A. Two-way mixed ANOVA results

Descriptive statistics sample

	Treatment	Mean	Std. deviation	N
Intent period 1	Regular	76.66	14.822	74
	Advertised	64.62	22.059	82
	Surprise	50.37	21.288	80
	Total	63.57	22.4406	236
Intent period 2	Regular	39.16	16.642	74
	Advertised	86.40	9.057	82
	Surprise	85.19	11.767	80
	Total	71.18	25.126	236

Estimated marginal means per treatment (overall averages)

Treatment	Mean	Std. Error	95% confidence interval for difference	
			Lower bound	Upper bound
T1	57.912	1.462	55.031	60.792
T2	75.512	1.389	72.775	78.249
T3	67.781	1.406	65.010	70.552

Estimated marginal means treatment*time

Treatment	Time	Mean	Std. Error	95% confidence interval for difference	
				Lower bound	Upper bound
T1	1	76.662	2.301	72.129	81.195
	2	39.162	1.481	36.245	42.079
T2	1	64.622	2.186	60.316	68.928
	2	86.402	1.407	83.631	89.174
T3	1	50.375	2.213	46.015	54.735
	2	85.188	1.424	82.382	87.993

Tests of between-subjects effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	2119086.218	1	2119086.218	6695.949	<.001	.966
Treatment	24138.195	2	12069.098	38.136	<.001	.247
Error	73738.177	233	316.473			

Tests of within-subjects' effects (sphericity assumed)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Time	4470.416	1	4770.416	20.086	<.001	.079
Time*treatment	113123.700	2	56561.8550	238.151	<.001	.672
Error(time)	55338.368	233	237.504			

Pairwise comparisons treatment

(I) treatment	(J) treatment	Mean difference (I-J)	Std. Error	Sig[b].	95% confidence interval for difference[b]	
					Lower bound	Upper bound
T1	T2	-17.600*	2.017	<.001	-21.574	-13.626
	T3	-9.869*	2.029	<.001	-13.866	-5.872
T2	T1	17.600*	2.017	<.001	13.626	21.574
	T3	7.731*	1.977	<.001	3.836	11.626
T3	T1	9.869*	2.029	<.001	5.872	13.866
	T2	-7.731*	1.977	<.001	-11.626	-3.836

Based on estimated marginal means
*The mean difference is significant at the .05 level
b Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments)

Pairwise comparisons time*treatment

Time	(I) treatment	(J) treatment	Mean difference (I-J)	Std. Error	Sig.[b]	95% confidence interval for difference[b]	
						Lower bound	Upper bound
1	T1	T2	12.040*	3.174	<.001	5.788	18.293
		T3	26.287*	3.192	<.001	19.998	32.577
	T2	T1	-12.040*	3.174	<.001	-18.293	-5.788
		T3	14.247*	3.110	<.001	8.119	20.375
	T3	T1	-26.287*	3.192	<.001	-32.577	-19.998
		T2	-14.247*	3.110	<.001	-20.375	-8.119
2	T1	T2	-47.240*	2.042	<.001	-44.578	-43.217
		T3	-46.025*	2.054	<.001	-41.927	-41.978
	T2	T1	47.240*	2.042	<.001	35.274	51.264
		T3	1.215	2.002	.544	-2.013	5.158
	T3	T1	46.025*	2.054	<.001	32.647	50.073
		T2	-1.215	2.002	.544	-7.291	2.729

Based on the estimated marginal means
*The mean difference is significant at the .05 level.
b Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments)

Pairwise comparisons time*treatment

Treatment	(I) time	(J) time	Mean difference (I-J)	Std. Error	Sig.[b]	95% confidence interval for difference[b]	
						Lower bound	Upper bound
T1	1	2	37.500*	2.534	<.001	32.508	42.492
	2	1	-37.500*	2.534	<.001	-42.492	-32.508
T2	1	2	-21.780*	2.407	<.001	-26.522	-17.039
	2	1	21.780*	2.407	<.001	17.039	26.522
T3	1	2	-34.812*	2.437	<.001	-39.613	-30.012
	2	1	34.813*	2.437	<.001	30.012	39.613

Based on estimated marginal means
*The mean difference is significant at the .05 level.
b Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Post hoc tests: Multiple comparisons (Tukey HSD)

(I) treatment	(J) treatment	Mean difference (I-J)	Std. Error	Sig.	95% confidence interval	
					Lower bound	Upper bound
T1	T2	-17.60*	2.017	<.001	-22.36	-12.84
	T3	-9.87*	2.029	<.001	-14.65	-5.08
T2	T1	17.60*	2.017	<.001	12.84	22.36
	T3	7.73*	1.977	<.001	3.07	12.39
T3	T1	9.87*	2.029	<.001	5.08	14.65
	T2	-7.73*	1.977	<.001	-12.39	-3.07

Based on observed means.
The error term is Mean Square(Error) = 158.236
*The mean difference is significant at the .05 level.

Post hoc tests: Homogenous subsets (Tukey HSD)

		Subset		
Treatment	N	1	2	3
T1	74	57.91		
T2	80		67.78	
T2	82			75.51
Sig.		1.000	1.000	1.000

Means for groups in homogenous subsets are displayed. Based on observed means.
The error term is Mean Square(Error) = 158.236.
a.Uses Harmonic Mean Sample Size = 78.516
b.The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.
c.Alpha=.05

B. Assessing whether between-sample differences are significant

		Full	Comp FALSE removed
Period 1	T1	72.95	76.66
	T2	61.68	64.62
	T3	51.19	50.37
Period 2	T1	45.61	39.16
	T2	85.54	86.40
	T3	82.90	85.19
Overall average	T1	59.28	57.91
	T2	73.61	75.51
	T3	67.04	67.78

Note. The order of the effects stays the same (i.e., it is the same treatments who stimulate purchase intent the best for each period and as an average).

Pearson χ^2 test results period 1 = χ^2=0.077032, df=2, p-value=0.9622
Pearson χ^2 test results period 2 = χ^2=0.50066, df=2, p-value=0.7785
Pearson χ^2 test results overall average = χ^2=0.040266, df=2, p-value=0.9801

Thus, in all three cases we reject H0 = purchase intent in period X is independent of the sample and assume Ha = purchase and sample are dependent. Hence the values do not significantly differ if we exclude those who did not correctly fill out the comprehension check, which supports our decision to keep these observations in our dataset as it does not statistically significantly change the mean findings.

Appendix K

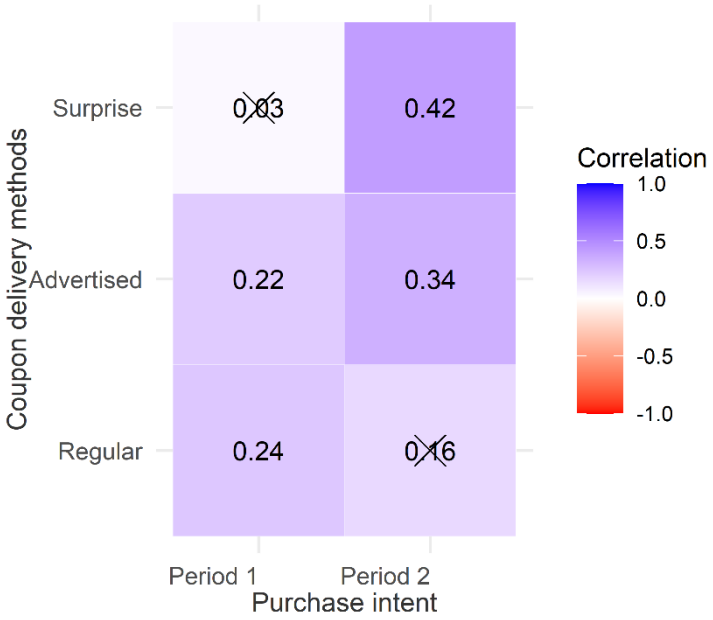
Pearson's correlation tests

Correlations coupon delivery methods and purchase intent per period:

	Purchase intent	
Coupon delivery methods	Period 1	Period 2
Regular	0.2399186	0.1609395
Advertised next-purchase	0.2235540	0.3389929
Surprise next-purchase	0.02713591	0.42210312

P-values for each coupon delivery method and purchase period combination:

	P-values	
Coupon delivery methods	Period 1	Period 2
Regular	0.01567	0.10790
Advertised next-purchase	0.0253600	0.0005605
Surprise next-purchase	0.787600	0.000011



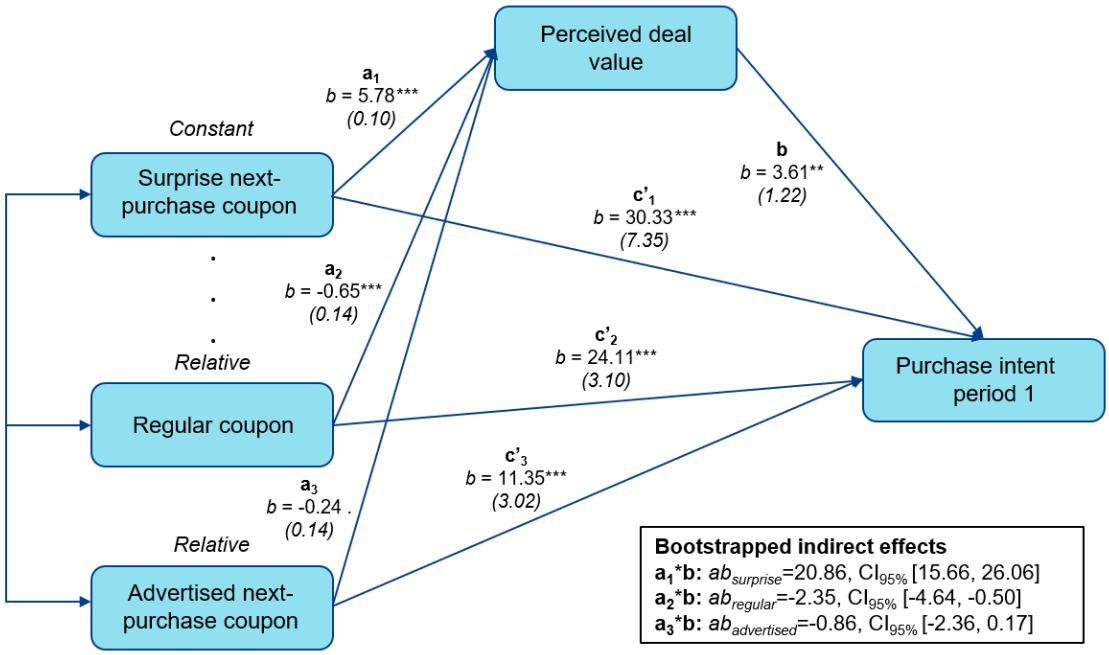
Appendix L

Mediation analyses

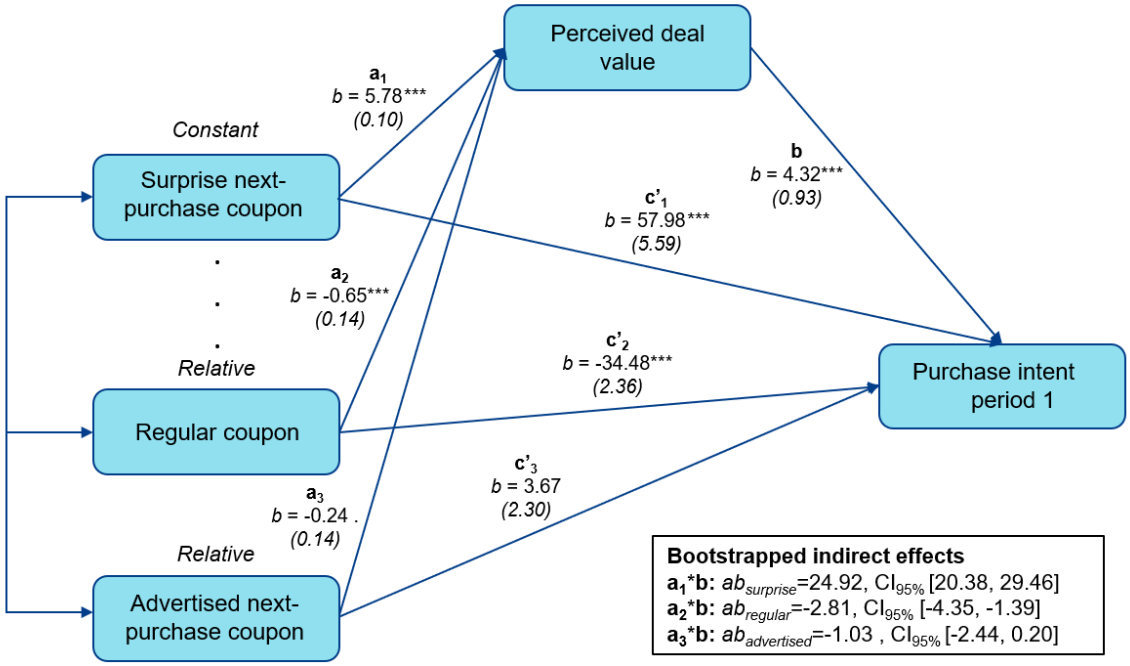
A. Mediation graphs

Purchase intent: period 1

Mediation Analysis Purchase Intent Period 1



Purchase intent: period 2



. $p<.01$, * $p<.05$, ** $p<.01$, *** $p<.001$. Coefficient standard errors are marked in parentheses.
Note. Adapted from *Statistical Mediation Analysis with a multicategorical independent variable*, by A.F. Hayes & K.J. Preacher, 2013, p.457.

B. Mediation analysis with baseline = surprise next-purchase coupon

FOR DV = intent1

X = treatment, M = value_avg, Y = intent1. With sample size = 302, level of confidence for all confidence intervals in output: 95, and number of bootstraps for percentile bootstrap confidence intervals: 5000.

Coding categorical X variable for analysis:

Treatment	X1	X2
3 (surprise) = constant	0	0
10 (regular)	1	0
20 (advertised)	0	1

Outcome variable: value_avg

Model summary:

R	R-sq	MSE	F	Df1	Df2	P
0.2581	0.0666	1.0233	10.6732	2.000	299.000	0.000

Model:

	Coeff	Se	T	P	LLCI	ULCI
Constant	5.7756	0.1007	57.3791	0.0000	5.5775	5.9737
X1	-0.6502	0.1423	-4.5674	0.0000	-0.9303	-0.3700
X2	-0.2389	0.1427	-1.6742	0.0951	-0.5197	0.0419

Outcome variable: intent1

Model summary:

R	R-sq	MSE	F	Df1	Df2	P
0.4136	0.1710	454.0294	20.4966	3.0000	298.0000	0.0000

Model:

	Coeff	Se	T	P	LLCI	ULCI
Constant	30.3285	7.3481	4.1274	0.0000	15.8677	44.7892
X1	24.1106	3.1013	7.7744	0.0000	18.0074	30.2138
X2	11.3548	3.0200	3.7599	0.0002	5.4115	17.2980
Value_avg	3.6117	1.2182	2.9649	0.0033	1.2144	6.0090

Total effect model

Outcome variable: intent1

Model summary:

R	R-sq	MSE	F	Df1	Df2	P
0.3829	0.1466	465.8593	25.6805	2.0000	299.0000	0.0000

Model:

	Coeff	Se	T	P	LLCI	ULCI
Constant	51.1881	2.1477	23.8343	0.0000	46.9617	55.4146
X1	21.7624	3.0373	7.1651	0.0000	15.7853	27.7395
X2	10.4919	3.0448	3.4458	0.0007	4.4998	16.4839

Total, direct, and indirect effects of X on Y

Relative total effects of X on Y:

	Effect	Se	T	P	LLCI	ULCI	C_ps
X1	21.7624	3.0373	7.1651	0.0000	15.7853	27.7395	0.9346
X2	10.4919	3.0448	3.4458	0.0007	4.4998	16.4839	0.4506

Omnibus test of direct effect of X on Y:

R2-chng	F	Df1	Df2	P
0.1466	25.6805	2.0000	299.0000	0.0000

Relative direct effects of X on Y:

	Effect	Se	T	P	LLCI	ULCI	C'_ps
X1	24.1106	3.1013	7.7744	0.0000	18.0074	30.2138	1.0354
X2	11.3548	3.0200	3.7599	0.0002	5.4115	17.2980	0.4876

Omnibus test of direct effect of X on Y:

R2-chng	F	Df1	Df2	P
0.1682	30.2384	2.0000	298.0000	0.0000

Relative indirect effects of X on Y:

Treatment → value_avg → intent1

	Effect	BootSE	BootLLCI	BootULCI
X1	-2.3482	1.0741	-4.6442	-0.5047
X2	-0.8629	0.6459	-2.3611	0.1686

Partially standardized relative indirect effects of X on Y:

Treatment → value_avg → intent1

	Effect	BootSE	BootLLCI	BootULCI
X1	-0.1008	0.0456	-0.1964	-0.0218
X2	-0.0371	0.0274	-0.1003	0.0076

Bootstrap results for regression model parameters

Outcome variable: value_avg

	Coeff	BootMean	BootSE	BootLLCI	BootULCI
Constant	5.7756	5.7755	0.0793	5.6151	5.9267
X1	-0.6502	-0.6490	0.1268	-0.8976	-0.4066
X2	-0.2389	-0.2391	0.1447	-0.5231	0.0483

Outcome variable: intent1

	Coeff	BootMean	BootSE	BootLLCI	BootULCI
Constant	30.3285	30.5438	8.7617	13.3446	47.5581
X1	24.1106	24.0796	2.9979	18.1183	29.7588
X2	11.3548	11.3210	3.2082	4.8240	17.5411
Value_avg	3.6117	3.5788	1.4562	0.8011	6.4291

FOR DV = intent2

X = treatment, M = value_avg, Y = intent2. With sample size = 302, level of confidence for all confidence intervals in output: 95, and number of bootstraps for percentile bootstrap confidence intervals: 5000.

Coding categorical X variable for analysis:

Treatment	X1	X2
3 (surprise) = constant	0	0
10 (regular)	1	0
20 (advertised)	0	1

Outcome variable: value_avg

Model summary:

R	R-sq	MSE	F	Df1	Df2	P
0.2581	0.0666	1.0233	10.6732	2.000	299.000	0.000

Model:

	Coeff	Se	T	P	LLCI	ULCI
Constant	5.7756	0.1007	57.3791	0.0000	5.5775	5.9737
X1	-0.6502	0.1423	-4.5674	0.0000	-0.9303	-0.3700
X2	-0.2389	0.1427	-1.6742	0.0951	-0.5197	0.0419

Outcome variable: intent2

Model summary:

R	R-sq	MSE	F	Df1	Df2	P
0.7588	0.5758	262.5980	134.8142	3.0000	298.0000	0.0000

Model:

	Coeff	Se	T	P	LLCI	ULCI
Constant	57.9778	5.5883	10.3749	0.0000	46.9803	68.9753
X1	-34.4815	2.3585	-14.6198	0.0000	-39.1230	-29.8400
X2	3.6700	2.2967	1.5979	0.1111	-0.8499	8.1898
Value_avg	4.3153	0.9264	4.6580	0.0000	2.4921	6.1384

Total effect model

Outcome variable: inten2

Model summary:

R	R-sq	MSE	F	Df1	Df2	P
0.7382	0.5449	280.7752	178.9834	2.0000	299.0000	0.0000

Model:

	Coeff	Se	T	P	LLCI	ULCI
Constant	82.9010	1.6673	49.7211	0.0000	79.6198	86.1822
X1	-37.2871	2.3579	-15.8134	0.0000	-41.9274	-32.6469
X2	2.6390	2.3638	1.1164	0.2651	-2.0128	7.2909

Total, direct, and indirect effects of X on Y

Relative total effects of X on Y:

	Effect	Se	T	P	LLCI	ULCI	C_ps
X1	-37.2871	2.3579	-15.8134	0.0000	-41.9274	-32.6469	-1.506
X2	2.6390	2.3638	1.1164	0.2651	-2.0128	7.2909	0.1066

Omnibus test of direct effect of X on Y:

R2-chng	F	Df1	Df2	P
0.5449	178.9834	2.0000	299.0000	0.0000

Relative direct effects of X on Y:

	Effect	Se	T	P	LLCI	ULCI	C'_ps
X1	-34.4815	2.3585	-14.6198	0.0000	-39.1230	-29.8400	-1.3929
X2	-3.6700	2.2967	1.5979	0.1111	-0.8499	8.1898	-0.1483

Omnibus test of direct effect of X on Y:

R2-chng	F	Df1	Df2	P
0.4581	160.8988	2.0000	298.0000	0.0000

Relative indirect effects of X on Y:

Treatment → value_avg → intent2

	Effect	BootSE	BootLLCI	BootULCI
X1	-2.8056	0.7586	-4.3470	-1.3882
X2	-1.0310	0.6652	-2.4432	0.2001

Partially standardized relative indirect effects of X on Y:

Treatment → value_avg → intent2

	Effect	BootSE	BootLLCI	BootULCI
X1	-0.1133	0.0305	-0.1749	-0.0566
X2	-0.0416	0.0269	-0.0989	0.0081

Bootstrap results for regression model parameters

Outcome variable: value_avg

	Coeff	BootMean	BootSE	BootLLCI	BootULCI
Constant	5.7756	5.7755	0.0793	5.6151	5.9267
X1	-0.6502	-0.6490	0.1263	-0.8976	-0.4066
X2	-0.2389	-0.2391	0.1447	-0.5231	0.0483

Outcome variable: intent2

	Coeff	BootMean	BootSE	BootLLCI	BootULCI
Constant	57.9778	58.1018	6.8768	44.4235	71.3053
X1	-34.4815	-34.5052	2.7290	-39.8581	-29.0905
X2	3.6700	3.6440	1.7766	0.1928	7.1619
Value_avg	4.3153	4.2966	1.1012	2.1516	6.5123

C. Mediation analysis with baseline = regular coupon

FOR DV = intent1

X = treatment, M = value_avg, Y = intent1. With sample size = 302, level of confidence for all confidence intervals in output: 95, and number of bootstraps for percentile bootstrap confidence intervals: 5000.

Coding categorical X variable for analysis:

Treatment	X1	X2
1 (regular) = constant	0	0
2 (advertised)	1	0
3 (surprise)	0	1

Outcome variable: value_avg

Model summary:

R	R-sq	MSE	F	Df1	Df2	P
0.2581	0.0666	1.0233	10.6732	2.000	299.000	0.000

Model:

	Coeff	Se	T	P	LLCI	ULCI
Constant	5.1254	0.1007	50.9199	0.0000	4.9273	5.3235
X1	0.4113	0.1427	2.8818	0.0042	0.1304	0.6921
X2	0.6502	0.1423	4.5674	0.0000	0.3700	0.9303

Outcome variable: intent1

Model summary:

R	R-sq	MSE	F	Df1	Df2	P
0.4136	0.1710	454.0294	20.4966	3.0000	298.000	0.000

Model:

	Coeff	Se	T	P	LLCI	ULCI
Constant	54.4390	6.5937	8.2562	0.0000	41.4628	67.4152
X1	-12.7558	3.0474	-4.1858	0.0000	-18.7530	-6.7587
X2	-24.1106	3.1013	-7.7744	0.0000	-30.2138	6.0090
Value_avg	3.6117	1.2182	2.9649	0.0033	1.2144	6.0090

Total effect model

Outcome variable: intent1

Model summary:

R	R-sq	MSE	F	Df1	Df2	P
0.3829	0.1466	465.8593	25.6805	2.0000	299.0000	0.0000

Model:

	Coeff	Se	T	P	LLCI	ULCI
Constant	72.9505	2.1477	33.9673	0.0000	68.7240	77.1770
X1	-11.2705	3.0448	-3.7015	0.0003	-17.2625	-5.2785
X2	-21.7624	3.0373	-7.1651	0.0000	-27.7395	-15.7853

Total, direct, and indirect effects of X on Y

Relative total effects of X on Y:

	Effect	Se	T	P	LLCI	ULCI	C_ps
X1	-11.2705	3.0448	-3.7015	0.0003	-17.2635	-5.2785	-0.4840
X2	-21.7624	3.0373	-7.1651	0.0000	-27.7395	-15.7853	-0.9346

Omnibus test of direct effect of X on Y:

R2-chng	F	Df1	Df2	P
0.1466	25.6805	2.0000	299.0000	0.0000

Relative direct effects of X on Y:

	Effect	Se	T	P	LLCI	ULCI	C'_ps
X1	-12.7558	3.0474	-4.1858	0.0000	-18.7530	-6.7587	-0.5478
X2	-24.1106	3.1013	-7.7744	0.0000	-30.2138	-18.00774	-1.0354

Omnibus test of direct effect of X on Y:

R2-chng	F	Df1	Df2	P
0.1682	30.2384	2.0000	298.0000	0.0000

Relative indirect effects of X on Y:

Treatment → value_avg → intent1

	Effect	BootSE	BootLLCI	BootULCI
X1	1.4853	0.8893	0.1274	3.5761
X2	2.3482	1.0852	0.4212	4.7090

Partially standardized relative indirect effects of X on Y:

Treatment → value_avg → intent1

	Effect	BootSE	BootLLCI	BootULCI
X1	0.0638	0.0382	0.0055	0.1516
X2	0.1008	0.0460	0.0177	0.1991

Bootstrap results for regression model parameters

Outcome variable: value_avg

	Coeff	BootMean	BootSE	BootLLCI	BootULCI
Constant	5.1254	5.1235	0.0966	4.9314	5.3059
X1	0.4113	0.4145	0.1555	0.1085	0.7212
X2	0.6502	0.6510	0.1240	0.4049	0.8955

Outcome variable: intent1

	Coeff	BootMean	BootSE	BootLLCI	BootULCI
Constant	54.4390	54.5342	7.7974	39.3153	69.7929
X1	-12.7558	-12.7454	3.0331	-8.6007	-6.7699
X2	-24.1106	-24.1248	2.9962	-29.8944	-18.2136
Value_avg	3.6117	3.5955	1.4842	0.6822	6.5505

FOR DV = intent2

X = treatment, M = value_avg, Y = intent2. With sample size = 302, level of confidence for all confidence intervals in output: 95, and number of bootstraps for percentile bootstrap confidence intervals: 5000.

Coding categorical X variable for analysis:

Treatment	X1	X2
1 (regular) = constant	0	0
2 (advertised)	1	0
3 (surprise)	0	1

Outcome variable: value_avg

Model summary:

R	R-sq	MSE	F	Df1	Df2	P
0.2581	0.0666	1.0233	10.6732	2.0000	299.0000	0.0000

Model:

	Coeff	Se	T	P	LLCI	ULCI
Constant	5.1254	0.1007	50.9199	0.0000	4.9273	5.3235
X1	0.4113	0.1427	2.8818	0.0042	0.1304	0.6921
X2	0.6502	0.1423	4.5674	0.0000	0.3700	0.9303

Outcome variable: intent2

Model summary:

R	R-sq	MSE	F	Df1	Df2	P
0.7588	0.5758	262.5980	134.8142	3.0000	298.0000	0.0000

Model:

	Coeff	Se	T	P	LLCI	ULCI
Constant	23.4963	5.0146	4.6856	0.0000	13.6278	33.3648
X1	38.1515	2.3176	16.4619	0.0000	33.5906	42.7123
X2	34.4815	2.3585	14.6198	0.0000	29.8400	39.1230
Value_avg	4.3153	0.9264	4.6580	0.0000	2.4921	6.1384

Total effect model

Outcome variable: intent2

Model summary:

R	R-sq	MSE	F	Df1	Df2	P
0.7382	0.5449	280.7752	178.9834	2.0000	299.0000	0.0000

Model:

	Coeff	Se	T	P	LLCI	ULCI
Constant	45.6139	1.6673	27.3576	0.0000	42.3327	48.8950
X1	39.9261	2.3638	16.8904	0.0000	35.2743	44.5780
X2	37.2871	2.3579	15.8134	0.0000	32.6469	41.9274

Total, direct, and indirect effects of X on Y

Relative total effects of X on Y:

	Effect	Se	T	P	LLCI	ULCI	C_ps
X1	39.9261	2.3638	16.8904	0.0000	35.2743	44.5780	1.6128
X2	37.2871	2.3579	15.8134	0.0000	32.6469	41.9274	1.5062

Omnibus test of direct effect of X on Y:

R2-chng	F	Df1	Df2	P
0.5449	178.9834	2.0000	299.0000	0.0000

Relative direct effects of X on Y:

	Effect	Se	T	P	LLCI	ULCI	C'_ps
X1	38.1515	2.3176	16.4619	0.0000	33.5906	42.7123	1.5411
X2	34.4815	2.3585	14.6198	0.0000	29.8400	39.1230	1.3929

Omnibus test of direct effect of X on Y:

R2-chng	F	Df1	Df2	P
0.4581	160.8988	2.0000	298.0000	0.0000

Relative indirect effects of X on Y:

Treatment → value_avg → intent2

	Effect	BootSE	BootLLCI	BootULCI
X1	1.7747	0.7755	0.4130	3.4362
X2	2.8056	0.7586	1.3882	4.3470

Partially standardized relative indirect effects of X on Y:

Treatment → value_avg → intent2

	Effect	BootSE	BootLLCI	BootULCI
X1	0.0717	0.0313	0.0167	0.1385
X2	0.1133	0.0305	0.0566	0.1749

Bootstrap results for regression model parameters

Outcome variable: value_avg

	Coeff	BootMean	BootSE	BootLLCI	BootULCI
Constant	5.1254	5.1265	0.0988	4.9249	5.3176
X1	0.4113	0.4098	0.1581	0.0969	0.7121
X2	0.6502	0.6490	0.1268	0.4066	0.8976

Outcome variable: intent2

	Coeff	BootMean	BootSE	BootLLCI	BootULCI
Constant	23.4963	23.5966	6.1169	11.0982	35.2023
X1	38.1515	38.1492	2.4697	33.3148	42.8964
X2	34.4815	34.5052	2.7290	29.0905	39.8581
Value_avg	4.3153	4.2966	1.1012	2.1516	6.5123

Summary

Chapter 1: Introduction

Problem background

Research into consumer behaviour has made significant advances in understanding the processes that govern decision-making upon entering an economic transaction, especially regarding the psychological aspects of pricing. Due to consumers' behavioural biases, otherwise identical objects are perceived differently based on external cues, allowing managers to manipulate value perceptions by solely altering the way the offer is presented (Hinterhuber, 2015). Krishna et al. (2002) categorize the causes of these biases into situational and price framing effects, where we will concentrate on the latter category (including e.g. price-precision effect, 9-endings, unit effect, price portioning, decoy effect, scarcity effect).

In the context of price promotions, the primary finding regarding the standard discount type indicates that monetary framings hold greater significance than an equivalent percentage-based price reduction for high-priced products, while the opposite holds for low-priced products. However, this implicitly assumes that the price reduction is directly applicable to the current period. Therefore, the objective of this research is to establish a model that explores different coupon delivery methods: contrasting regular coupons with immediate benefits against next-purchase coupons with delayed benefits. While for next-purchase coupons making an addition distinction between various anticipation levels, namely advertised vs. unexpected).

Problem statement

This study aims to develop a deeper understanding of consumer responses to the three most used coupon delivery methods, namely regular coupons, advertised next-purchase coupons, and surprise next-purchase coupons. Regular coupons are tickets made available to consumers prior or during their store visit, to be redeemed for a financial discount when purchasing a product. Next-purchase coupons are received at checkout only after the initial purchase has been made, making them redeemable for subsequent purchases to promote repeat purchasing. The latter coupon type is often advertised in-store on product shelves to entice consumers to buy from a particular brand or product category by offering this additional benefit. Alternatively, consumers may be unaware of the next-purchase coupon until it is presented to them at checkout as a surprise to encourage positive retailer or brand perceptions.

In this thesis, we will evaluate the implications of the various coupon delivery methods in terms of consumers' deal value perceptions and purchase intentions across two time periods – the current purchase period (when the coupons are received) and the subsequent purchase period (when the next-purchase coupons can be redeemed); hereafter periods 1 and 2. Accordingly, the problem statement of this research can be defined as follows: *'What effect does the coupon delivery method (regular vs. advertised next-purchase vs. surprise next-purchase) have on deal value perceptions and purchase intentions in both the current and subsequent purchase period individually, as well as overall for the two periods?'*

Research questions

In response, our study is grounded on a set of research questions addressed by means of a literature review to identify the possible underlying mechanisms of the effects found through an analysis of our experimental results, including: which mechanisms could underlie variations in consumer responses to equivalent coupons with different delivery methods (regular vs. advertised next-purchase vs. surprise next-purchase) as defined by the current literature? How do the various coupon delivery methods (regular vs. advertised next-purchase vs. surprise next-purchase) compare in terms of consumers' perceptions of deal value? How does perceived deal value influence purchase intent in a two-period model? To what extent does perceived deal value mediate the relationship between the coupon delivery method and purchase intent: both for each purchase period individually, and overall for a two-period model?

Conceptual model

This represents the following mixed-mediation model with three treatments based on the coupon delivery method exposed to, and a dependent variable measured over two purchase periods – of which a visual overview is provided in Figure 1.

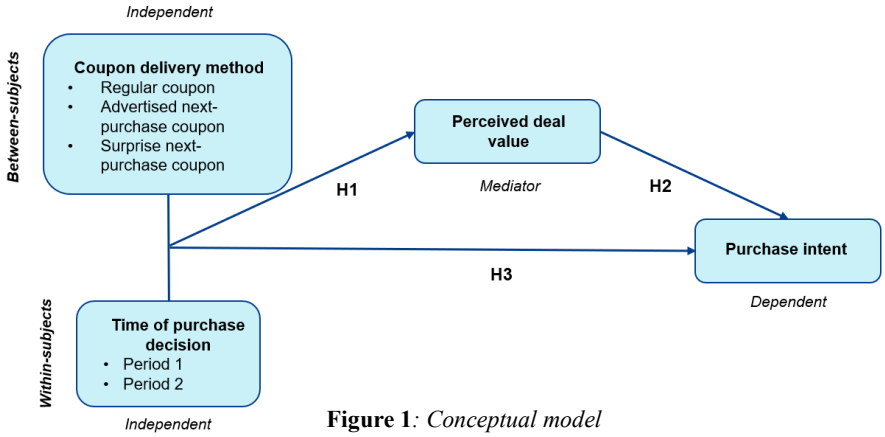


Figure 1: *Conceptual model*

Hypotheses

Deal value perceptions for price promotions are generally positive, as the lower the price, the greater the perceived savings and the more attractive the deal (Krishna et al., 2002). Next-purchase coupons are tailored to consumers' previous purchases and thus deemed more relevant than regular coupons, leading to higher deal value perceptions (Chatterjee, 2007). The double mental discounting phenomenon is used to explain how the temporal separation of the acquisition and redemption of next-purchase coupons leads to lower perceived transaction costs and higher perceived savings (Cheng & Cryder, 2018). Especially when offered as a surprise – such that the benefit could not be integrated in the purchase decision – deal value perceptions are ought to be highest for this delivery method (Chatterjee, 2007).

In turn, we expect a positive relation between perceived deal value and purchase intent up to and including the period of coupon redemption, as: the better the deal, the more consumers want to take advantage of it (Chatterjee & McGinnis, 2010). Considering that purchase intent will be highest in the redemption period, its values are ought to develop in the opposite way between-periods for regular and next-purchase coupons. The influence of perceived deal value on purchase intent in period 2 is expected to be negative for regular coupons due to the disappointment following the return of the prices to their original levels after the promotion (DelVecchio et al., 2007). This will result in a lower purchase intent value for the two-period model overall, favouring next-purchase coupons to regular coupons.

Additionally, the initial purchase in the context of next-purchase coupons may be regarded as an investment, creating an escalating commitment to redeem in a subsequent purchase period (Heath, 1995). This combined with being notified of the extra benefit early enough for double mental discounting effects to influence the initial purchase decision makes the purchase intent level for advertised next-purchase coupons the highest overall. Hence, surprise next-purchase coupons are ought to yield the lowest intent in period 1, but the highest in period 2 due to its surprise effect and delayed application of double mental discounting. This does make up for the difference with regular coupons in period 1, but not for the advertised offering.

Relevance study

Academic relevance

Due to the limited research on next-purchase coupons in comparison to regular coupons, our model draws from a small number of studies on delayed promotional benefits, such as those by Cheng & Cryder (2018) and Chatterjee (2007). We aim to provide novel insights into promotion framing by providing a complete picture – distinguishing between regular and next-purchase coupons at various anticipation levels. Specifically, in the context of fashion retail, we examine the effects of these three coupon delivery methods on novel outcomes such as purchase intent and perceived deal value over two purchasing periods, as well as the underlying processes at play. Additionally, our study contributes to literature on behavioural effects by exploring the temporal separation of costs and benefits associated with next-purchase coupons. Our findings indicate that next-purchase coupons entice greater purchase intent than regular coupons, with the advertised method performing best overall. Similarly, we observe higher perceived deal values for next-purchase coupons, although the difference between advertised and surprise offerings is only marginally significant.

Managerial/practical relevance

This study also has substantial practical implications. Coupons have long been a popular marketing strategy used by retailers, with the US coupon industry alone worth over $100 million and printing 293 billion coupons in 2017 (Tighe, 2022). Digital coupon redemption is also growing and projected to surpass $14.8 trillion by 2027 (Juniper Research, 2017). Yet, redemption rates remain low, with only a tiny fraction of coupons being redeemed, while increasing these rates would lead to higher sales for managers. Simplifying the coupon use and search process, currently fragmented across multiple platforms, could help achieve this (Valassis, 2019).

Next-purchase coupons offer a potential solution to improve this situation and understanding their use and design in the retail environment can help explain, shape, and promote them effectively within the FMCG industry. Additionally, our study contributes to knowledge about stimulating purchase intent and perceived deal value, enhancing the use of price promotion tools to optimize retail strategies. Next-purchase coupons are broadly implemented in practice: in grocery stores, as well as services, pharmacies, home appliance, department, online stores etcetera (Chatterjee, 2007). Birchbox, an online retailer, offers an example by providing next-purchase coupons to customers after their initial order, enticing them with a 20% discount: ‘*We want you back. Take 20% of your next purchase!*’

Research approach and data

To evaluate our hypotheses, we will conduct a quantitative study using an online experiment with hypothetical shopping scenarios that employs a 3 (coupon delivery method: regular coupon vs. advertised next-purchase coupons vs. surprise next-purchase coupon) x 2 (time of decision: period 1 vs. period 2) mixed factorial design. Participants will be randomly assigned to one of three treatment conditions representing different coupon delivery methods. The time of decision will be manipulated within-subjects, allowing us to measure purchase intent twice for each participant.

Therefore, we do not only study outcomes for the redemption periods to allow us to observe the predicted effects of double mental discounting for next-purchase coupons, which can accordingly be contrasted against purchase intent values for regular coupons over the two-period model overall. To compare the purchase intent means of the groups cross-classified by our independent variables, measured on a 100-point scale, we will use a two-way mixed factorial ANOVA. Furthermore, we will assess the mediating role of perceived deal value, measured on a three-item 7-point Likert scale, in the relationship between coupon delivery method and purchase intent using PROCESS macro mediation analysis for each purchase period.

Chapter 2: Theoretical framework

Coupon delivery method and perceived deal value

Coupon delivery methods

For the last few decades, coupons have been a popular price discrimination tool in the consumer goods industry and are generally classified into two types: regular coupons and next-purchase coupons. Regular coupons are often cut from promotional flyers, while next-purchase coupons are found on cash register receipts or separate scanner sheets, offering discounts (Chatterjee, 2007). With the increasing integration of technology in our daily lives, coupons are now also offered through mobile applications. Coupons can be targeted at specific products, product categories, or may apply to almost any product in store. Unlike temporary price reductions, coupons require consumers to present a code at the cashier, making them less universal. Next-purchase coupons, based on consumers' previous purchases, are even more personalized. For example, a consumer who regularly shops at fashion warehouse Y for brand X might receive a coupon stating, '*Get 20% off your next-purchase from X at Y!*'. This personalized discount is more likely to appeal to and be relevant for consumers compared to a regular coupons that simply offers a discount on all yeans at the fashion warehouse, which might not align with the consumer's preferences.

Regular and next-purchase coupons differ mainly in the timing of acquisition and redemption (see Figure 2). Regular coupons are obtained prior to or during the initial store visit and can be redeemed for a discount upon purchase. In contrast, next-purchase coupons are obtained after paying the full price for an item and are immediately issued after the initial purchase. These coupons can be redeemed during a subsequent purchase period, within the specified timeframe, for an item from the same brand or category (Narasimhan, 1984; Krafft & Mantrala, 2010; Chatterjee, 2007). Next-purchase coupons provide delayed discount benefits by

requiring an additional purchase to redeem the discount, incentivizing immediate purchase at the time of offer (Chatterjee, 2007). In addition, the convenience of receiving the next-purchase coupon at checkout makes it appealing to a broader audience as it requires minimal effort. In contrast, regular coupons necessitate consumers to invest time in searching for deals that align with their needs and preferences.

Recognizing the significance of these subtle differences in coupon delivery methods is crucial due to findings in prior research that reveal diverse consumer responses to the framing and timing of coupon benefits, despite them being variations of the same stimuli (Choi & Mattila, 2014; Tversky et al., 1988). In addition to the differentiation between regular and next-purchase coupons, the theory extends to various levels of anticipation for next-purchase coupons: advertised and unexpected (offered as a surprise at checkout), as depicted in Figure 2 (Heilman et al., 2002). Existing literature examines regular and next-purchase coupons, as well as advertised and surprise next-purchase coupons, in terms of choice, retailer fairness, purchase amounts, and satisfaction across the current and subsequent purchase periods (see Cheng & Cryder, 2018; Chatterjee, 2007). Cheng and Cryder (2018) discover that next-purchase coupons lead to higher purchase rates and increased spending per purchase compared to objectively similar regular coupons. At first glance, this may seem counterintuitive since next-purchase coupons offer the same benefits but with a delay, making regular coupons objectively preferred when discounting for time. Further delving into the effect, Chatterjee (2007) finds that surprise next-purchase coupons contribute to greater purchase satisfaction but also higher perceived retailer unfairness compared to advertised offerings.

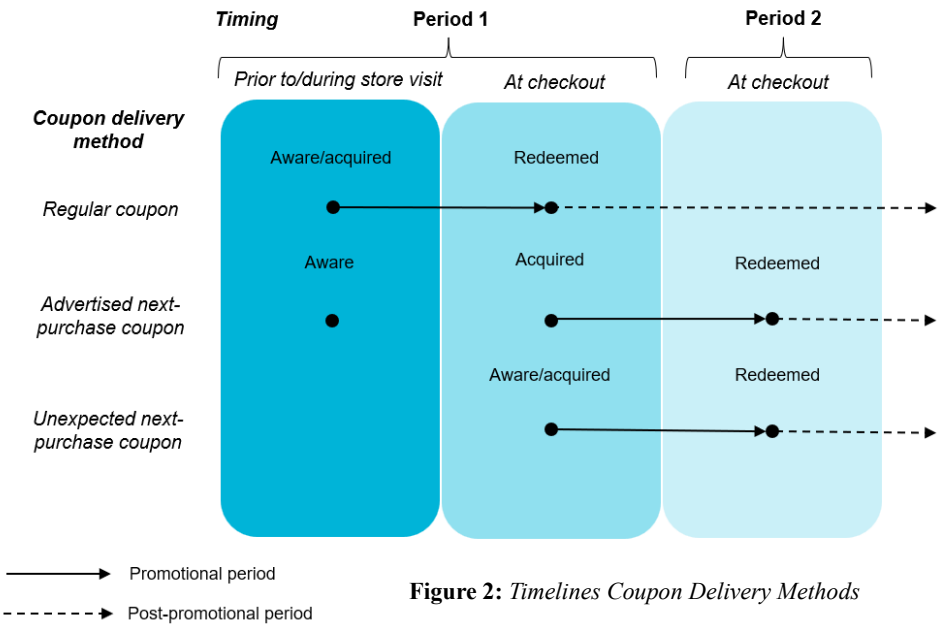


Figure 2: *Timelines Coupon Delivery Methods*

Advertised next-purchase coupons are brought to consumers' attention before the decision to purchase in that period, similar to regular coupons. They are often displayed on product shelves in stores or advertised in retailers' flyers or online, conveying messages like: '*Buy a product from (brand X) and get €20-off your next purchase from them'*. On the other hand, surprise next-purchase coupons are only revealed to consumers at the cash register after making their initial purchase. They may receive a message like: '*We appreciate your purchase, here is €20-off your next purchase from (brand X)/(product category Y) with us!'*. In both cases, consumers receive a €20-off coupon after their initial purchase, which can be redeemed for their next-purchase with that brand or retailer. Both coupons hold the same objective value of €20 and should thus theoretically have a similar impact on behaviour and intent if we assume rationality (Chatterjee, 2007).

Perceived deal value

However extant literature has shown that this assumption is not valid in reality due to systematic variation in deal value perceptions as affected by differences in timing of the (Della Bitta et al., 1981). Perceived deal value, or deal attractiveness, is the evaluation made by consumers regarding the benefits of deal and its ability to meet their needs and expectations. It serves as a popular measure of promotional effectiveness (Sweeney & Soutar, 2001; Büyükdağ et al., 2020). A key determinant of perceived deal value is the perceived price, which refers to the subjective monetary value assigned to a product, determining whether it is considered cheap or expensive (Calvo-Porral & Lévy-Mangin, 2017). Price is perceived as the monetary sacrifice required to acquire a good and significantly influences perceived savings, which is the most common measure of response to price promotions and has a negative relationship with price (Krishna et al., 2002). In summary, lower prices lead to higher perceived savings and higher perceptions of deal value.

In general, coupon promotions are believed to yield significantly higher perceptions of deal value compared to universal discounts, namely when offered to all it can diminish brand equity and increase price sensitivity (Chatterjee & McGinnis, 2010; Suri et al., 2004; Yin & Dubinsky, 2004). Next-purchase coupons, in particular, are increasingly personalized based on consumers' previous purchases, allowing retailers to target specific buyers of a particular product category or brand (Chatterjee & McGinnis, 2010). This tailored approach exposes consumers to deals that they find valuable and are more likely to use, strengthening positive perceptions of the retailer/brand and reducing the likelihood of switching to other stores/brands (Coelho & Henseler, 2012; Chatterjee 2007; Dodson et al., 1978; van Heerde et al., 2003; Sun et al., 2003).

Even more intriguing is the mental accounting explanation for the variation in perceived deal value between regular and next-purchase coupons, namely the double mental discounting phenomenon as described by Cheng and Cryder (2018). According to Thaler (1985), individuals create a mental account upon entering a transaction, which closes upon completion, coupling the costs and benefits of the transaction (Prelec & Loewenstein, 1998; Kamleitner, 2008). For next-purchase coupons, this strong association between the single gain of period 1 and both the purchase cost in the acquisition and redemption period leads to the mental deduction of the discount benefit for both periods, while the coupon is only effective for the latter (Cheng & Cryder, 2018). This coupling effect allows consumers to easily integrate the savings with the purchase price – as the savings are vivid, salient, unambiguous - resulting in lower perceived costs, higher perceived savings, and more positive perceptions of the promotion offer (Cheng & Cryder, 2018). Accordingly, the value of regular coupons is likely evaluated more accurately than for next-purchase coupons (Prelec & Loewenstein, 1998; Kamleitner, 2008), in which light we hypothesize: **H_{1a} = Consumers who receive a next-purchase coupon perceive deal value to be higher than consumers who receive a financially equivalent regular coupon.**

Next, we examine the perceived deal value differences between advertised and surprise next-purchase coupons. Advertised coupons are expected to influence purchase decisions at the product shelves, compensating for lower willingness-to-pay values, and hence increasing the number of purchases in period 1

(Chatterjee, 2007). However, this does not apply to surprise next-purchase coupons as consumers are unaware of the deal before the initial purchase, so they must be willing to pay the full price, which increases future purchase probabilities without affecting current values (Chatterjee, 2007). Critics argue that surprise coupons tend to over-benefit consumers, as they perceive the net value of the purchase to be positive even without the price promotion, making it suboptimal to the advertised offering (Gourville & Soman, 1998). Consequently, the perceived deal value for surprise next-purchase coupons is stimulated significantly.

Additionally, the nature of surprise next-purchase coupons leads to re-evaluation of the purchase decision after the initial transaction, employing double mental discounting through a delayed subtraction of the coupon's value from the purchase price. The unexpected benefit represented by the coupon's face value holds greater influence on the post-transaction evaluation, overshadowing the effort and expense required to obtain the savings (Gourville & Soman, 1998). Furthermore, the surprise element of receiving the coupon at checkout enhances positive perceptions of the brand and retailer, contributing to higher purchase satisfaction (Chatterjee, 2007). The surprise next-purchase coupon is perceived more as a personalized gift, acquired privately without knowledge of others receiving the same offer. In contrast, for the advertised offer, posters are publicly displayed and the deal applies to everyone in store, while surprise coupons convey retailer's specific interest in the customer. Therefore, we hypothesize the following: **H_{1b} = Deal value perceptions for next-purchase coupons are higher when the coupon isffered as a surprise rather than advertised.**

Perceived deal value and purchase intent

Perceived deal value plays a significant role in influencing purchase intentions, representing the overall cognitive, affective, and behavioural inclination towards adopting, purchasing, and using products, services, ideas, or behaviours (Dadwal, 2019). We expect a positive relationship between perceived deal value and purchase intent. A price discount, which reduces the original price of a product, is perceived as a gain and a smaller monetary sacrifice. This perception of savings increases consumers' desire to take advantage of the deal, thereby heightening their purchase intent (Lee & Chen-Yu, 2018; Zeithaml, 1988). Furthermore, we anticipate this association to be particularly strong during the redemption period of each coupon when the benefits are most salient in consumers' mind at the time of purchase. Therefore, we hypothesize: **H_2 = As deal value perceptions increase, consumers' purchase intentions will increase as well in the promotional period.**

This hypothesis focuses on the promotional period, which encompasses the acquisition and redemption of the coupon. In our two-period model, the promotional period is longer for next-purchase coupons compared to regular coupons, as it includes both purchase periods (see Figure 2). We only examine the post-promotional period for regular coupons in period 2, so we do not compare outcomes between methods for this period. however, it is worth noting that for regular coupons in period 2, we expect perceived deal value to influence purchase intentions through future price expectations. Future price expectations represent consumers' anticipated purchase prices in subsequent purchase opportunities (DelVecchio et al., 2007). Greater perceived deal value leads to lower expectations of future purchase prices, making the product appear more affordable than initially expected. This adjustment in reference points stimulates purchase

intent in period 1 but may have a negative impact on purchase intentions in subsequent periods and the long-run when prices return to normal levels (Kim & Kramer, 2006; Krishna et al., 2002). As actual prices exceed expected prices, consumers may hesitate to make purchases and wait for another round of price promotions (DelVecchio et al., 2007; Pauwels et al., 2002). Therefore, once the promotion ends, perceived deal value is likely to negatively impact purchase intent.

Coupon delivery method and purchase intent

Based on the previous discussion, we expect purchase intent to be highest for regular coupons in period 1, followed by a substantial decline in value due to disappointment. Figure 3 illustrates our relative expectations for purchase intent levels across different coupon delivery methods at different decision times. For next-purchase coupons, we anticipate the opposite trend compared to regular coupons, with higher intent due to double mental discounting and the added incentive of discounts extending beyond the current period (Gabler et al., 2017). Even though the second purchase may not be as necessary, intentions remain high for next-purchase coupons due to the sunk cost effect, where the initial purchase is seen as an investment for future savings. Therefore, consumers may irrationally escalate their commitment to redeem the coupon in period 2 to offset the looming sunk cost to enjoy the total benefit (Soman, 2001; Heath, 1995).

For advertised next-purchase coupons, purchase intent remains constant across both periods through encouraging immediate action rather than waiting for promotions (Reibstein & Traver, 1982; Babakus et al., 1988; Bawa et al., 1997). The surprise of encountering the advertised coupon in-store leads to larger shopping baskets and more unplanned purchases, further increasing purchase intent in the initial period. Advertised next-purchase coupons target consumers directly at the point of purchase where most decisions are made (Heilman et al., 2002). In contrast, surprise next-purchase coupons – unable to influence the initial purchase decision – result in purchase intent similar to that without any price promotions. However, in period 2, the compounded positive effects lead to a significant increase in purchase intent, surpassing regular coupons.

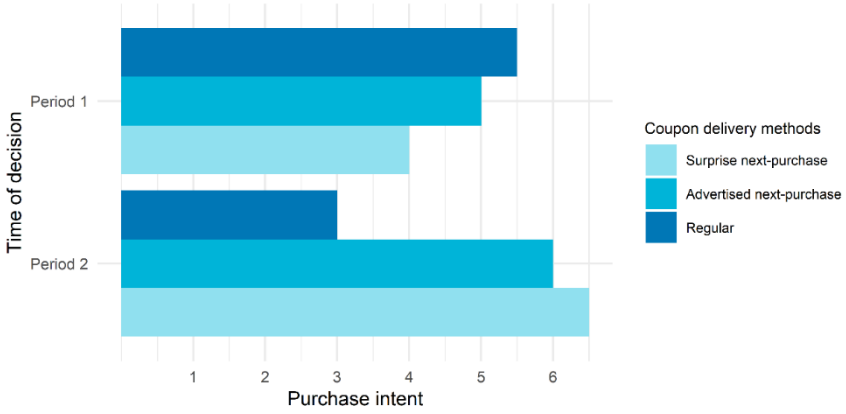


Figure 3*: Purchase Intent Expectations*
Note. Purchase intent expressed on a 7-point scale from 'Would certainly not purchase' to 'Would certainly purchase'. A score of 4 – i.e., equally likely to purchase than to not purchase – is considered the common purchase intent score in a period without (expectations of) price promotions.

Ultimately, it is the full picture that matters, and thus which coupon delivery method will perform best in terms of the overall value for purchase intent for the two-period model. The expected ranking is as follows: advertised next-purchase coupons, surprise next-purchase coupons, regular coupons. We hypothesize: **H_{3a} = For a two-period model, consumers who receive a next-purchase coupon have a higher overall intent to purchase than consumers who receive a financially equivalent regular coupon. H_{3b} = For a two-period model, overall purchase intent for next-purchase coupons is higher when the coupon is advertised instead of offered as a surprise.**

Chapter 3: Methodology

Design

Measures

Our study employs a 3 (coupon delivery method: regular vs. advertised next-purchase vs. surprise next-purchase) x 2 (time of decision: period 1 vs. period 2) mixed factorial design. Participants will be randomly assigned to one of three conditions based on the coupon delivery method. The time of decision is a within-subjects factor: each participant will provide purchase intention ratings for both periods 1 and 2 in response to hypothetical scenarios. Purchase intent is measured on a 100-point scale from 0 ('*Certainly would not purchase'*) to 100 ('*Certainly would purchase'*). Perceived deal value, our mediating construct, will be measured using a three-item 7-point Likert scale from *Strongly Disagree'* to '*Strongly Agree'* (Cronbach's α = 0.93) as suggested by Biswas and Burton (1993) for assessing perceived savings (Lee & Chen-Yu, 2018).

Between/within-subjects design

Our mixed design combines the strengthens of between- and within-subjects designs. The between-subjects design was used for the coupon delivery method factor to avoid carryover effects and prevent participants from guessing the study's hypotheses (Keren & Lewis, 2014; Koschate-Fisher & Schandelmeier, 2014). By using a between-subjects manipulation, we also eliminate potential fatigue effects. However, it should be noted that such a design requires a larger sample size and more resources, which is important to consider in choosing the appropriate design for interpreting empirical results (Keren & Lewis, 2014).

Given our study's size, the methodological issues of a within-subjects design, which could threaten internal validity, are not relevant due to the absence of significant effects of covariates or individual differences on our dependent variable (Greenwald, 1976; Keren & Lewis, 2014). Therefore, the examination of causal relationships within our conceptual model is naturally facilitated. Although the within-subjects design has certain disadvantages, they are less serious for the time of the purchase decision factor, as it is not the focal variable of our model. The lack of independence does not pose additional problems, but instead contributes to higher effectiveness and efficiency in observing differences in purchase intentions between the two purchase opportunities in response to changing shopping contexts (Greenwald, 1976).

Stimuli

Our research questions hold relevance beyond specific product categories due to the widespread use of next-purchase coupons in the FMCG industry. The stimulate personal involvement, we focus on fashion products, specifically sneakers and shirts, as they appeal to individuals of all ages, genders, and preferences. This ensures that participant's responses accurately reflect their behaviour, as low involvement and cognitive effort may lead to arbitrary answers (Chaiken, 1980; Solomon, 2019). Moreover, these items are frequently purchased, and with a three-month gap between purchase occasions, a repeat purchase is highly plausible.

To minimize the influence of existing brand associations and past experiences on emotions or attitudes, we avoid mentioning real brand names in our hypothetical shopping scenarios to allow our manipulations to

work effectively. We refer to the fictional clothing store 'Rufous' and fictional brand 'Debute' in our purchase scenarios to address this concern. Participants are instructed to envision Rufous as their favourite clothing store and to imagine they are searching for items to add to their spring/summer wardrobes, to ensure that the perceived value of the product is not compromised due to lack of need. Similar approaches, such as using fictious retailers, have been employed in other studies on perceived deal value (Chatterjee and McGinnis, 2010), indicating that our results should not be affected by this choice.

To simplify the application of double mental discounting and facilitate easier observations, we framed the discount benefit in monetary terms rather than as a percentage such that it requires fewer cognitive resources (DelVecchio et al., 2007; González et al., 2016; Kim et al., 2019). The discount amount was set at €25 to make calculations more straightforward, as numbers ending in five are easier to work with (Estelami, 1999). Next-purchase coupons were tailored to the same brand as the initial purchase, highlighting their personalized nature compared to regular coupons that apply to the same retailer. The start date of surprise next-purchase coupons was restricted to the day after acquisition and the initial purchase to enhance satisfaction, perceived deal value, and retailer fairness, following recommendations by Chatterjee (2007). Regular coupons included an expiration date to create a sense of urgency and tap into consumers' fear of missing out. These design modifications are minor and not expected to significantly impact the results, but they were carefully considered. For instance, a minimum purchase value was also specified, although participants did not need to consider it since both products exceeded that threshold.

Procedure

The experiment procedure varies across the three coupon delivery method conditions. In the regular coupon condition, participants first learn about Rufous' new mobile app offering a €25 coupon for their next purchase of €50 or more (valid until May 1st 2022). They imagine being on a shopping trip in Eindhoven a week later, where they come across Debute sneakers priced at €105 at the Rufous store. Reminded of the coupon, participants indicate their intention to purchase the sneakers. After three months, they return to the Rufous store and encounter a Debute shirt priced at €55, again indicating their purchase intent. Then they are asked to evaluate the deal – being presented with the coupon – and complete a comprehension check to confirm their understanding of the coupon's redemption conditions based on their assigned treatment.

Participants exposed to the advertised next-purchase coupon first envision themselves on the shopping trip and whilst trying on the sneakers, they notice a sign stating that purchasing the Debute sneakers entitles them to €25 off their next purchase from Debute at the Rufous store (with a minimum purchase value of €50). They are asked about their purchase intent, but regardless of their response, they assume they made the purchase. The next-purchase coupon is then transferred to their Rufous app account. After three months, they visit the Rufous store again and find the shirt. Similarly, they rate their purchase intent reminded of the coupon they had received last time, evaluate the deal's value and complete comprehension checks. In the surprise next-purchase coupon condition, the procedure is nearly identical to the advertised next-purchase coupon condition, with a few differences. Participants become aware of the coupon only after making the

initial purchase in period 1 at the checkout, without any in-store sign. Additionally, the surprise next-purchase coupon is specified as valid from April 15th.

Sampling

Size

To determine the minimum required sample size to run our experiment, we conduct a power analysis using GPower software to calculate the a-priori power required to detect a two-way interaction among the factors, as well as heuristics (Koschate-Fischer & Schandelmeier, 2014). We perform a 'ANOVA: Repeated measures, within-between interaction' statistical test from the *F tests* family to run the 'A priori: Compute required sample size – given α, power, and effect size*'* power analysis. The effect size measure Cohen's f(v) is estimated using the partial η^2 value assumed on the basis of expectations of the studied effect's size: f=0.1 (small), f=0.25 (medium), f=0.4 (large) (Cohen, 1988). Our settings included an error probability α of 0.05, statistical power 1-β of 0.80, 3 groups, 2 measurements (Christensen, 2007; Cohen, 1988; Cohen, 1992).

Based on study 1A by Cheng and Cryder (2018), where the next-purchase coupon resulted in significantly higher purchase frequency compared to the regular coupon, the effect size is estimated between 0.21-0.47. To ensure practicality and considering the absence of differentiation between advertised and surprise next-purchase coupons in their study, we choose a moderate effect size of f(v)=0.30. Multiplying this by 3 (the number of manipulations), we determine a total sample size of 333 (111 per group), satisfying the rule of thumb of administering at least 30 participants to each experimental condition (Sawyer & Balls, 1981).

Source

To recruit a large number of participants quickly and affordably, we employ non-probability sampling methods, which may introduce sampling bias compared to probability sampling (Taherdoost, 2016; Daniel, 2012). To mitigate this risk, we utilize a mix of data collection techniques, including voluntary response, convenience, and snowball sampling (Vehovar et al., 2016). The survey is publicly shared on various online platforms such as Instagram and Facebook to encourage voluntary participation. Additionally, we reach out to conveniently available members of the target population and request their assistance in distributing the survey to expand our reach (Gabor, 2007). This multi-faceted approach enhances the randomness of participant selection and minimizes biases in our data collection.

To enhance participant willingness and data quality, we provide monetary incentives as compensation for their time and effort which are donated to a charity (Read, 2005; Church, 1993; Jobber et al., 2004; James & Bolstein, 1990; McDaniel & Rao, 1980). It is important to note that the incentive amount should strike a balance to maintain its symbolic value as a token of appreciation rather than appearing as a mandatory payment in which case they may view the amount as insufficient (Mizes et al., 1984; Warriner et al., 1996). We have set the donation amount at 0.15 cents per participant, which is considered reasonable and allows participants to contribute to a charitable cause, leaving them with a positive sentiment.

Analysis

We will use a two-way mixed factorial ANOVA, a popular statistical test for comparing means across multiple groups. This analysis will help us understand how the mean of our dependent variable, purchase intent, changes based on the levels of our treatment variable, coupon delivery method (between-subjects), and the levels of our independent variable, time of decision (within-subjects). Our design includes multiple categorical independent variables, making it a factorial ANOVA. By conducting F-tests, we will assess the statistical significance of the relationships in our model and simultaneously test three null hypotheses: 1) There is no difference in purchase intent for any coupon delivery method, 2) There is no difference in purchase intent at either purchase period, and 3) The effect of coupon delivery method on purchase intent does not depend on the time of decision (no interaction effect).

We conduct a mediation analysis using the PROCESS macro model 4, which employs bootstrapping methods to examine the role of perceived deal value as a mediator in the relationship between coupon delivery method and purchase intent. We investigate whether perceived deal value fully or partially mediates this causal sequence. By dummy coding our multicategorical treatment variable, we can determine the significance of mean differences between different coupon delivery methods. Due to our repeated measures dependent variable, we will have to conduct this analysis twice for each time of decision (period 1 and 2).

Chapter 4: Results

Figure 5 summarizes our expected and observed purchase intent means for each coupon delivery and purchase period (in particular to illustrate the results of Hypothesis 3a). Table 4 provides an overview of all hypotheses and whether they are accepted based on evidence from our studies' results. Hypothesis 2 was not fully validated in our experiment. The smaller-than-expected increase in perceived deal value for surprise next-purchase coupons may be due to the hypothetical nature of our shopping scenarios, which dampened emotional responses. Advertised next-purchase coupons also had a mild surprise effect, as consumers did not expect such deals when seeing them on product shelves, which could have impacted period 2 similarly.

Table 4: *Summary of Hypotheses, Results and Evidence*

	Hypotheses	Result	Evidence
1a	Higher perceived deal value for next-purchase than regular coupons	Supported	▪ Advertised – regular = 0.41 (p=.004, 95% CI [0.13, 0.69]) ▪ Surprise – regular = 0.65 (p<.001, 95% CI [0.37,0.93])
1b	Higher perceived deal value for next-purchase coupons offered as a surprise than advertised	Weakly supported (*marginally significant*)	▪ Surprise – advertised = b=0.24 (SE=0.14, p=.10, 95% CI [-0.04,0.52])
2	As perceived deal value increases, purchase intent increases accordingly in promotional period	Supported	Effect perceived deal value on purchase intent in period 1 = b=3.61 (SE=1.22, p=.003, 95% CI [1.21,6.01])
3a	For a two-period model, purchase intent is higher overall for next-purchase than regular coupons	Supported	Overall: ▪ Advertised – regular = 14.38 (p<.001, 95% CI [10.42, 18.23]) ▪ Surprise –regular= 7.76 (p<.001, 95% CI [3.87, 11.66]) Period 1: ▪ Regular – advertised = 11.27 (p<.001, 95% CI [5.28, 17.26]) ▪ Regular – surprise = 21.76 (p<.001, 95% CI [15.79, 27.74])

			Period 2: ▪ Advertised – regular = 39.93 (p<.001, 95% CI [35.27, 44.58]) ▪ Surprise – regular = 37.29 (p<.001, 95% CI [32.65, 41.93])
3b	For a two-period model, purchase intent is higher overall for advertised next-purchase coupons than offered as a surprise	Supported	Overall: ▪ Advertised – surprise = 6.57 (p=.001, 95% CI [2.66, 10.47]) Period 1: ▪ Advertised – surprise = 10.49 (p<.001, 95% CI [4.50, 16.48]). Period 2: ▪ Surprise – advertised = 2.64 (p=.27, 95% CI [-2.01, 7.29]).

Chapter 5: General discussion

Goal thesis

In what manner should price promotion offers as coupons be communicated such as to most (effectively) stimulate the outcomes desired by retailers and brands? This thesis aims to understand how consumers' value perceptions, particularly for next-purchase coupons, affect their purchase intentions during periods of coupon acquisition and redemption. We investigate the effects of discount timing (regular vs. next-purchase) and anticipation level (advertised vs. surprise) on value perceptions and purchase intentions. Previous research has given limited attention to differentiating the timing of coupon benefits. By highlighting its potential to provide theoretical insights and practical implications, we hope to inspire future research.

A mixed two-way factorial ANOVA was conducted to examine the effects of three coupon delivery methods: regular, advertised next-purchase, and surprise next-purchase. While there are other types of coupons that could be considered, Cheng and Cryder (2018) propose that the next-purchase coupon type is optimal for stimulating coupling, as it involves a financial sacrifice immediately followed by a delayed reward. We adopt this approach to highlight the potential double mental discounting effects in our data.

Main takeaways study

Supporting hypothesis 1, our results indicate that next-purchase coupons are associated with higher perceived deal value compared to regular coupons. This can be attributed to the tailored nature of next-purchase coupons, which aligns with consumers' needs and enhances their perceived value. Moreover, the coupling of next-purchase coupons with both purchase periods facilitates double mental discounting effects, as described by Cheng and Cryder (2018). Consumers mentally subtract the benefit from the purchase price for both periods, reducing their cost perception and perceiving the coupon's deal value as higher than a regular coupon offering the same discount directly.

Hypothesis 2 examined the impact of perceived deal value on purchase intent, and we found support for this hypothesis, aligning with our intuition. When consumers perceive a deal as having a high value, they are more inclined to take advantage of it. These findings suggest that perceived deal value acts as a meaningful mediator in our model, partially mediating the effects of the coupon delivery method on purchase intent.

According to Chatterjee's (2007) distinction, we differentiate between two types of next-purchase coupons - advertised (attenuated on shelves) and surprise – both acquired only after the first purchase is made. Hypothesis 3a suggests that purchase intent for next-purchase coupons will be higher than for regular coupons across two purchase occasions. Our findings support this hypothesis, with regular coupons showing high intent in period 1 but dropping significantly in period 2, while next-purchase coupons exhibit the

opposite pattern. The decline in purchase intent for regular coupons in period 2 when prices go back up to their original levels falls below the non-promotional period mean due to disappointment caused by lowered price expectations after period 1. Furthermore, exposure to next-purchase coupons fosters a perception of investment for future savings, increasing commitment to redeem the coupon and avoid sunk costs.

Hypothesis 3b further specifies the previous hypothesis, predicting that the two-period average purchase intent is higher for advertised than surprise next-purchase coupons. Our results indicate that the difference mainly stems from intent variations in period 1, as intent does not significantly differ between coupon types in period 2. Consumers exposed to advertised next-purchase coupons already integrate the coupon's utility during the product purchase decision at the shelves, while those in the surprise condition are prepared to pay the full price (Gourville & Soman, 1998). Although some argue that providing a coupon to the surprise group may over-benefit them, our findings demonstrate that overall purchase intent for surprise next-purchase coupons remains higher than without a price promotion, making it a worthwhile investment.

Theoretical implications

An extensive body of literature has explored the psychological aspects of pricing, highlighting how consumers – influenced by behavioural biases - perceive similar objectives differently based on external cues. Krishna et al. (2002) identified two contributing factors: situational effects and price framing. Our study contributes to research on framing effects in marketing by examining the impact of discount benefit timing and its advertised or surprise nature on value perceptions and purchase intentions. While prior research has primarily focused on regular price promotion tools appliable to the current period, our study explores the implications of delayed discount benefits in the context of next-purchase coupons. Despite regular coupons being favoured in inter-temporal choice theory – given that all coupon types studied offer the same benefit - our findings demonstrate that perceived deal value and purchase intent are higher for next-purchase coupons. This contributes to research into the effect of the temporal separation of costs and benefits on consumption behaviour, a topic previously examined by for instance Gourville and Soman (1998).

Our study connects two intriguing concepts - double mental discounting and anticipation levels of next-purchase coupons – that merit more attention and deeper investigation within the price promotions literature. These topics have received limited attention and require further investigation. While previous studies by Cheng and Cryder (2018) and Chatterjee (2007) have explored coupon delivery methods in terms of choice, purchase amounts, and satisfaction, our study focuses on purchase intentions, making it unique in this context. Additionally, we introduce perceived deal value as a mediator in our model, with the closest metric in the study by Cheng and Cryder (2018) being customer store satisfaction.

Practical implications

Our findings have managerial relevance as they provide insights for retailers and brands to optimize their price promotion strategies. Understanding coupon types or frames that generate higher perceived deal value and purchase intentions can help retailers effectively influence consumer behaviour and perceptions without increasing the promotions' depth or spending additional money. This, in turn, leads to increased spending

and improved price promotion effectiveness and receptivity.. As retailers rarely aim to encourage only a single purchase, this notion is considered in a two-period context to underline the essence for marketing managers to comprehend these processes to understand what is happening in consumers' minds during various price promotions. This paper, among others, may offer them that understanding.

Our study contributes to the academic understanding and promotion of next-purchase coupons as a valuable retail promotion tool. These coupons not only drive short-term sales by attracting new customers and increasing redemption rates but also foster long-term customer loyalty, especially due to their personalized nature based on previous purchases. Our findings suggest that retailers should prioritize using advertised next-purchase coupons over regular coupons, as they consistently generate higher purchase intent over an extended period. This approach protects brand and retailer perceptions from negative quality inferences caused by the constant product availability on sale. Additionally, next-purchase coupons serve as an effective tool for identifying committed consumers who are likely to return (Cheng & Cryder, 2018).

Limitations and possible extensions

Despite the aforementioned implications, there remain issues and potential avenues for future research. Firstly, our study focuses on purchase intentions as a dependent variable, which may not precisely reflect actual purchase behaviour given the hypothetical nature of our experiment. Enhancing the validity of our findings could involve measuring a more tangible and continuous variable or conducting a field experiment, although these improvements would require a lot of resources and thus come with challenges itself.

Secondly, our study only considers two purchase occasions, but investigating these effects over a longer period would ensure the sustained effectiveness of next-purchase coupons in terms of purchase intent in subsequent periods where no promotional benefits are offered. Additionally, to eliminate the influence of prior (negative) brand experiences on consumer responses, participants in the experiment purchased from unfamiliar brands to isolate the impact of the provided regular price information as their sole external reference price. Additionally, exploring whether consumers with prior product experience are more likely to redeem coupons can provide valuable insights, as they may have formed an internal reference price.

Future research can consider a more extensive approach by comparing regular coupons with rebates, including both advertised and surprise rebate types, to examine different forms of monetary benefits. This expansion would shed light on the underexplored area of rebates and further explore double mental discounting and its implications, as our and Cheng and Cryder's (2018) study did.

Examining the differentiation in framing discount benefits as a moderator, specifically percentual versus monetary framing, can offer insights into the relationship between coupon delivery method and perceived deal value. Especially for next-purchase coupons, where the subsequent framing of discount benefits may influence double mental discounting implications through the ease of coupling, this presents value implications for perceived deal value and purchase intent. Percentual-framed discounts have a lower processing fluency, increasing the difficulty of subtracting its benefit from the purchase price, resulting in less adjustment of the price and lower deal value perceptions.