

The impact of multiple framing cues on promotion success: Evidence from an experiment in an online Pay What You Want context

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Abstract

Participative pricing mechanisms have become increasingly popular among companies. A specific type of this mechanism called “pay what you want” (PWYW) seems to be a desirable way of increasing sales revenues. In particular, using the mechanism for online services has proven to be successful as the internet offers a flexible platform for it and as the role of variable costs is minimal in online services. However, as many social influence strategies work differently in physical and online worlds, there needs to be a thorough understanding of how framing a PWYW offering affects the prices that consumers are willing to pay. Specifically, the authors look at how reference price, promotion availability and payment anonymity affect consumers’ price estimates and purchase and search intentions for an online game bundle in an experimental setting. The results show that the variables have an interactive effect on the price consumers would pay for the games and on consumers’ purchase intentions. Out of the main effects, high reference price affects consumers’ price estimates the most.

Keywords pay what you want, participative pricing, framing, online services

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1 INTRODUCTION

With the growth of the online marketplace, pricing has gained new interest among practitioners and academics. Online business models, complex service offerings, and digitally consumed goods allow for the creation of new pricing strategies and for the use of traditional pricing strategies for new product and service categories. Dynamic pricing, participative pricing, name-your-own-price, and pay-what-you-want pricing mechanisms have all shown to be successful and increasingly popular online. Participative pricing mechanisms represent such pricing vehicles as they involve consumers in the price-setting process (Kim et al. 2009) and can effectively be used in online environments. Auctions are a typical example of participative pricing – the pricing decisions made by the buyer strongly influence the final price set by the seller. While these mechanisms have long been in place in traditional physical settings, they are now being applied to online environment and to digital goods and services. Online auctions, for example, have taken multiple forms that are usable only in digital channels. “Pay what you want” (PWYW), a distinct case of participative pricing, provides interesting opportunities to differentiate from competitors in online businesses. It delegates the whole price determination to the buyer, which means that the customer can choose to pay whatever price, even zero (Kim et al. 2009). PWYW helps to draw attention to the product offering and thereby get new customers.

Traditional physical businesses are many times restricted or influenced by high variable costs, clear reference price perceptions, and physical presence of other customers and employees therefore there are only few examples of the use of PWYW in the offline world. Some examples would be charitable giving and self-service for highly inexpensive consumer goods. On the contrary, the internet provides completely new applications to this pricing strategy. The flexibility of the internet enables innovative sales and pricing of products and services. New

digital goods bear less fixed price perceptions in consumers' minds and often low variable costs related to online services allow for varying kind of pricing strategies.

Despite the fact that the actual usage of PWYW in physical settings is scarce, the research on the mechanism has been applied to offline contexts; Kim et al. (2009) studied PWYW in offline retail contexts while Gneezy et al. (2010) studied it in an offline charitable giving context. PWYW online contexts have also been studied for the purpose of gaining knowledge of consumer behaviors and responses. Racherla et al. (2011) studied the effects of privacy assurances and social information on consumer payments for PWYW priced mobile applications. Data collected from an online PWYW music label was studied by Regner et al. (2010) to understand why customers pay voluntarily. Implementation of a PWYW promotion can be difficult as it provides an opportunity for consumers to "exploit" the company by paying nothing for the offered product or service and, at the same time, the company needs to generate revenues from selling the items. The framing of the offering seems to play a crucial role in customer responses and how much they are willing pay. For example, Gneezy et al. (2010) acknowledged this fact by showing that shared social responsibility increases PWYW revenues over traditional corporate social responsibility appeals. Therefore, this study focuses on offering framings in selling an online service with the PWYW pricing mechanism. We aim to provide understanding of PWYW in the digital environment as well as show how framing of different variables of the promotion can alter consumers' responses to it. Besides contributing to existing PWYW and participative pricing literature, the results of this study give managerial insight to the successful launch of PWYW promotions and how to get customers to pay a higher price.

2 THEORETICAL BACKGROUND

Bakos (1998) discussed the emerging role of electronic marketplaces on the internet. Markets create value for buyers, sellers, intermediaries, and society. There has been a dramatic increase in the role of information technology in traditional and electronic marketplaces. Information technology has then increased effectiveness and reduced transaction costs creating 'friction-free' markets. The matching function of a market then creates a bilateral relationship between the buyer and seller. Once the transaction is completed, the product must be transported to the buyer and the payment transferred to the seller. The internet marketplaces have reduced these costs, especially in the case of information goods. Digital information goods allow for perfect copies to be created and distributed almost without cost.

Sai (2010) discussed digital goods for the purpose of understanding how their characteristics may have an impact on their prices and price setting mechanisms. They have no loss in quality during duplication, they take negligible storage space, they can be offered with timely delivery, and they have easy transferring and processing. The aspects facilitate the creation of new online marketplaces and friction free markets. These friction free markets will lead to greater price competition and ultimately lower prices and better value for customers (Dolan and Moon 2000). Digitization in a sense, has changed none of the fundamental rules of pricing, however, price structures developed to fit older generations of products will not apply to the digital world (Doctors et al. 2010).

Companies must change with the times and accept that their pricing strategies must continue to reflect market price drivers, even if prices are diminishing in the friction free markets. The dynamic of these friction free markets are not as attractive for sellers who relied on geography or

consumer ignorance to insulate them from low-cost sellers in the market (Bakos 1998). New sources of product and marketing differentiation will become much more important. Sotgiu and Ancarani (2004) argued however, that the internet is not driving down prices and is instead helping companies to become smarter in their pricing strategies. Smart pricing can be achieved by exploiting different customer value perceptions among different retail channels by exploring new pricing opportunities. We will now discuss some of these new pricing options and the role of framing of those promotional offers.

2.1 Dynamic pricing

Some new forms of pricing that companies are using to differentiate themselves are dynamic pricing and participative pricing. Name your own price and PWYW mechanisms can be seen as both dynamic and participative pricing. Dynamic pricing includes some of the same behavior determining characteristics as PWYW and other pricing models. Dynamic pricing allows for identical products and services to be sold with different prices (Lee et al. 2011, Xia et al. 2004). It can be defined as a pricing strategy in which prices change either over time, across consumers, or across product/service bundles (Kannan and Kopalle 2001). Online auctions are the most common formats of dynamic pricing discussed and they allow buyers to actively take part in the pricing decision.

Lee et al. (2011) studied factors affecting perceived price fairness of buyers in online dynamic pricing context. The two factors discovered were the illusion of control and lateral consumer relationship. Illusion of control is based on the two elements of 'intention to achieve the outcome' and 'perceived connection between ones actions and the desired outcome' (Lee et al.

2011, Thomson 1999). Consumers must participate in the transaction to perceive the control and the perceived control leads to greater perceived fairness of the price. The lateral consumer relationship then refers to the price perception that comes from comparative processes. Consumers compare the price they paid to the price others paid for a similar or identical product. They then base their perceived fairness of price on that comparison. Both illusion of control and lateral relationship significantly influenced perception of price fairness. This perception of price fairness then was shown to be a strong predictor of purchase intention.

2.2 Participative pricing

Participative pricing then involves not just the changing of prices, but with actual consumer control over prices. Kim et al. (2009) classified different forms of participative pricing mechanisms in terms of the type of interaction: horizontal interactions between several buyers and/or several sellers, and one buyer and one seller interactions. Horizontal interactions include classic auctions, reverse auctions, and exchanges. One-to-one participative pricing interactions include negotiations, NYOP, and PWYW. Chandran (2003) discussed consumer responses to these participative pricing interactions compared to responses to fixed pricing mechanisms. Participative pricing was defined as mechanisms in which consumers participate in the process of determining the price. It was shown how strategic use of these mechanisms can stimulate demand. By participating in pricing, consumers perceive control over the process. Participation then necessitates thinking about how and when to participate, but consumers also act in service of that 'sub-goal.' This process is implemental in nature which leads to higher behavioral commitment in terms of intent to purchase. The consumers are focusing on setting the final

price, an action, rather than evaluation of the deal. It has been shown that consumers who have experienced participative pricing generally prefer it over posted prices and it attracts consumers attention drawing new customers (Chandran and Morwitz 2005). Again, buyer control seems to play a large part in this. In PWYW buyers' control over price setting is set at a maximum (Kim et al. 2009).

2.3 Name-your-own-price mechanism

Another example of a participative pricing mechanism that has been widely successful on the internet has been the application of 'name your own price' business models. Generally in the form of auctions, NYOP retailers allow buyers to set the final price, however unlike PWYW models, the seller can reject the final price if it is below an undisclosed threshold (Kim et al. 2009). Sellers hope to extract the maximum buyer surplus by getting consumers to pay the highest price they are willing over their own marginal cost of the item (Spann and Tellis 2006). Consumers are shown to not always act rationally and that irrationality can be exploited for profit. Due to the lack of frictional costs associated with online shopping, consumers can be drawn to these innovative pricing experiences. These frictional costs include the disutility of investing time and effort for interacting with a website and the disutility of interacting with user interfaces (Hann and Terwiesch 2003). By creating easy to use NYOP and PWYW online sites, customers can be drawn to them and persuaded to make a purchase. This lack of frictional costs allows the NYOP format to soften competition (Fay 2009). Because many products sold online are similar to each other, marketers can utilize NYOP models to differentiate themselves from rivals, relaxing price competition. The same effect can apply to PWYW situations.

The framing of NYOP mechanisms can involve several different forms of cues. Cues such as reference prices and brand and product information are all used in consumers' evaluations of a NYOP promotion. Chernev (2003) showed that consumers must be able to articulate their perceived product utility in monetary terms in order to generate a price. Provided reference prices facilitate this price generation process. They can serve as a benchmark from which the product value estimation can be derived. Advertised reference prices can also signal the value that the seller places on the product (Kamins et al. 2004). The retailer can use market research data to obtain information of consumers' reserve prices (Wilson 2008) and from this create optimal framing strategies.

The study conducted by Kamins et al. (2004) also involved the effects of seller supplied reference prices on buyers' product evaluations in internet auctions. Marketer supplied descriptions of price serve as an anchor for a buyer's formation of a new reference price. In a promotional context, consumers compare the sale price to the higher advertised price, e.g. regular price or list price. Buyers then adjust their bid price based on these reference prices. However it is shown that in NYOP promotions, the perceived value of the item for bid is also influenced by other price cues that are constantly changing, mainly the bids of those competing for the same product. This makes it difficult to put a weight on the influence of each cue individually. This study hopes to shed some light onto the interactive effects of multiple price and non-monetary cues framed in different ways.

Wolk and Spann (2008) discussed the effects of reference prices on bidding behavior for these interactive pricing mechanisms. They analyzed whether retailers can positively influence bid values by providing an advertised reference price. Consumer purchase behavior is said to be influenced by three types of reference prices. The internal reference price of the consumer is

based on prices consumers have seen in the past and estimated fair prices for the product or service. This internal reference price can then be affected by advertised reference prices provided by the seller or by external reference prices often found through external price searching. These factors change however in the case of NYOP auctions. The consumer no longer faces a posted price to judge the sale price against. There is no actual price for the consumer to compare to the reference price. Instead the reference price plays a more important role in situations of product uncertainty. It influences the process in which the bid value is formed and the decision to take part in the auction. Consumers' uncertainty about their product valuation and accuracy of their internal reference price can be relieved by a seller providing a suggested retail price. They can also conduct searches for external reference prices. As a result, the final bid value will depend on multiple sources of price and product information. This paper hopes to show how provided reference price can be used in conjunction with non-monetary cues to influence consumers into paying more than the minimum.

2.4 Pay-what-you-want pricing mechanism

PWYW pricing models are classified as participative pricing mechanisms that utilize buyer's participation in determining the price. Kim et al. (2009) defined PWYW as a participative pricing mechanism that delegates the whole price determination to the buyer. Buyers decide the price on goods being offered under PWYW conditions by the seller. Once the price has been set by the buyer, the transaction then automatically proceeds and the buyer must accept the price.

This mechanism gives full control over pricing to the buyer. Consumers whose perceived control of pricing is high tend to demonstrate higher intention to purchase (Chandran and

Morwitz 2005). Consumers who have an implemental rather than deliberative mind-set tend to have greater purchase intentions. This is driven by the desire to set the final price rather than to evaluate the deal. This mind-set of the consumer can be manipulated through the framing of the participative pricing promotion to be more implemental. Those that experience participative pricing mechanisms generally prefer them to traditional pricing mechanisms that have a predetermined price.

Although participative pricing and PWYW pricing mechanisms are not new to consumers, the application of them to new products or services can be seen as innovative. Innovative pricing strategies can be utilized by marketing strategists to differentiate their company from the competition. The innovativeness of the promotion can attract consumers' attention and increase potential customer awareness. Participative pricing mechanisms have already proved successful in online marketplaces, most notably with online auction sites. Online auctions can be classified as name your own pricing (NYOP) mechanisms. These differ from PWYW mechanisms in that the seller has the right to reject a buyer's bid should it fall below an undisclosed threshold (Kim et al. 2009). PWYW mechanisms have also been appearing in online environments and for digital goods. The success of Radiohead's release of the album, *In Rainbows*, under PWYW conditions has spurred new examples of the mechanism and provided new avenues for pricing and consumer behavior research. Through successful framing of the promotion and offering of a highly regarded product, the band was able to convince consumers to pay more than the minimum price of zero.

Kim et al. (2009) showed that the final price paid by the consumer depends on the consumer's internal reference price and the proportion of that reference price they are willing to discharge to the seller. The proportion discharged reflects the buyer's fairness, satisfaction, price

consciousness, and income. By utilizing PWYW the seller shows that they are confident in the quality of their product. A quality product and proper framing of a PWYW mechanism should in turn yield a higher than minimum price paid by the consumer. Limited research has been conducted on the framing of a PWYW pricing mechanism to influence prices paid.

Marett et al. (2012) studied PWYW in an online setting involving purchases from iTunes marketplace. They studied the possibility that the price a buyer is willing to pay for a digital product and the price actually paid can differ based on social and economic factors. The exploratory look was based on Social Exchange Theory that centers on the relationship between mutually beneficial partners. In a participative pricing environment such as PWYW, the social and economic factors between buyers and sellers must be mutually beneficial for the long-term survival of the relationship. One person does another a favor with an expectation of some future reciprocation. Customers that seek to repeatedly gain the benefits provided by the vendor will be socially motivated to provide economic incentive to the vendor. Paying over zero then signals that the consumer would like to have the PWYW offer to be available again (Marett et al. 2012, Gneezy et al. 2010). Gneezy et al. (2012) investigated the role of identity and self-image consideration under PWYW pricing environments. Results from their field experiments (Gneezy et al. 2010) show that often, when granted the opportunity to pay what they want, fewer customers choose to buy it than when the price is fixed and low. This decision to not purchase is driven by an individual's identity and self-image concerns. These consumers feel bad when they pay less than the 'appropriate price' causing them to pass on the opportunity to purchase. Because they care about their self-image, if they do purchase, they will pay more than the minimum. Levitt (2006) showed that willingness to pay was driven by issues of right and wrong

and fairness rather than standard economic concepts such as self-interest in the case of bagels and donuts distributed under an honor system.

Riener and Traxler (2011) studied how moods affect short-term fluctuations in prices paid for PWYW pricing in a restaurant. Their study differed from most PWYW studies in that they did not include any explicitly posted prices that could serve as a reference. They showed that long-term profitability is possible for PWYW vendors despite short-term fluctuations due to mood.

Regner (2010) investigated why consumers pay voluntarily in a PWYW environment involving an online vendor of music sold digitally. The purpose of the study was to show the underlying motivations to pay more than the minimum price including reciprocity, altruism, social-image concerns, guilt, and social norms triggered by an explicitly posted reference price. Reciprocity was shown to be the strong motivation for participants to pay more than the minimum. Guilt was also a significant driver. Being inclined to follow social norms creates the desire to pay around the recommended price. Payments similar to the posted reference price were shown to be the most common. Racherla et al. (2011) studied PWYW pricing for mobile applications to see the effects of social information and privacy assurances. Customer adoption of mobile applications is generally based on app utility and social information as well as negatively influenced by the perceived risk associated with disclosing privacy information. Customers' intent to purchase and the price they are willing to pay is shown to be positively influenced by social information such as number of other purchasers and the prices they paid. Gautier and Van der Klaauw (2010) studied voluntary and non-voluntary participants in a PWYW pricing situation involving a night's stay in a hotel. PWYW pricing was shown to require loyal fans for success and should involve a product that is non-rival and non-excludable. Our study hopes to add insight into

PWYW pricing for digital goods and how successful framing of the promotion can increase desire to purchase and the amount paid.

2.5 Framing of decisions

Explanations and prediction of people's choices is often based on the assumption of human rationality. These rational choices are generally thought to satisfy requirements of consistency and coherence. People however do not always follow these requirements and systematically violate them (Tversky and Kahneman 1981). Psychological principles govern the perception of decision problems and the evaluation of options.

Tversky and Kahneman (1981) described a decision problem as defined by the acts or options among which one must choose, the possible outcomes or consequences of these acts, and the contingencies or conditional probabilities that relate outcomes to acts. The 'decision frame' is then the decision-makers conception of the acts, outcomes and contingencies associated with a particular choice. This decision frame is controlled by the formulation of the problem as well as by the norms, habits, and personal characteristics of the decision maker. When facing a choice, the decision maker will choose the option with the highest expected utility. This choice process involves an initial phase in which acts, outcomes, and contingencies are framed. This frame is then evaluated before choosing. Previous research has studied framing effects on monetary and non-monetary sales promotions (Campbell and Diamond 1990). Generally they follow the ideas of prospect theory in that the positive framing of problems emphasizes benefits, while negative framing emphasizes risks. When contemplating benefits, decision makers generally minimize risks. When they contemplate risks, they tend to eliminate risks even if the costs are high

(Gamliel and Herstein 2011, Kahneman and Tversky 1979). This paper will focus on the general term of framing relating to different presentations of objects of a promotion rather than to the more rigid definition used by Gamliel and Herstein (2012) relating to presentation of an identical object of a promotion in complementary manners.

The framing of sales promotions has been discussed and has generally shown that consumers do not always make rational decisions and are highly sensitive to contextual cues in information supplied in price offers (Sinha and Smith 2000). Levin et al. (1998) created a typology of framing effects including risky choice, attribute, and goal framing. These three types of framing are governed by different processes and are thus independent of each other. This study hopes to shed more light into this subject of interdependence between different framing aspects in the same promotion.

Proper framing of a pricing promotion can lead to greater purchase intentions and lessen search intentions (for alternative products or better prices) of consumers. Gamliel and Herstein (2011) studied how framing of a promotion affects consumers' purchase intentions. It was shown that consumers in negative framing conditions would be more willing to purchase the product offered at a discounted sale price. McKechnie et al. (2012) examined the framing effects of discount presentation in comparative price advertising in low price and high price contexts. They studied identical discounts presented in percentage and absolute terms (attribute framing) and showed that they indeed result in different consumer perceptions of transaction value and purchase intentions. Effects of discount framing were found to be influenced by discount size in the case of low price product context, but not in the high price one. The largest effects were shown to be determined by factors which managers can control such as 'deal characteristics' and 'price presentation factors' as opposed to situational factors. Many other studies have focused on this

absolute versus percentage framing. Chen et al. (1998) found that price reductions framed in percentage terms rather than dollar amounts was more significant for high-priced products and the opposite was found for low-priced products. Gendall et al. (2006) showed that when this price or price discount is the only cue available for the subject, it is overemphasized in their responses. Consumers were shown to be more influenced by other cues such as brand and amount of discount rather than influenced by the different framings.

Inman et al. (1997) studied the framing of promotions with the presence of restrictions to accentuate deal value. Consumers have several sources of information that they can consider when evaluating a deal, e.g. depth of discount, the brand, and presence of special displays. The presence of a restriction and its framing operate to activate a cognitive resource that is used in rendering offering favorableness. When no other information is present, the framing of a restriction leads to an inference of 'good value'. However, when other value information is available, the restriction can stimulate either favorable or unfavorable judgments. It was shown that the effect of these restrictions is not unified across all conditions because the effect is modified by the presence of other framing variables. This study intends to show some of these effects of other variables in PWYW situations that can be applied to the framing of all types of promotions.

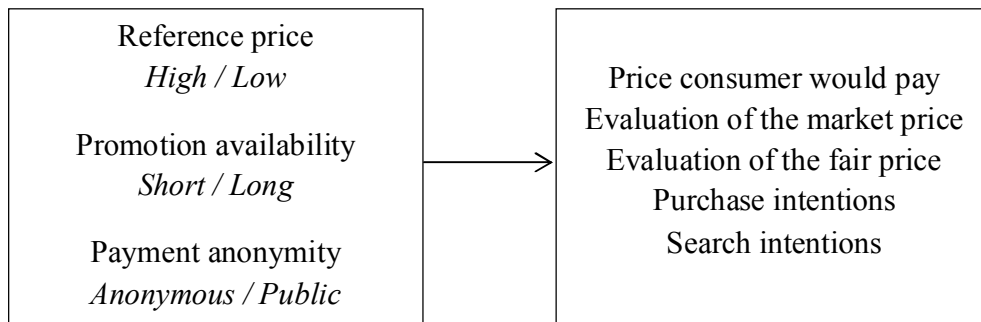
Most previous framing research pertains to traditional pricing promotions (e.g. discounts, 30% off, buy one get one free, limit two per customer) and has had little reach into innovative pricing mechanisms such as PWYW. This study intends to discover how the framing of a PWYW promotion affects customers' responses, including paying more than the minimum, and purchase and search intentions. Regner (2010) studied an online PWYW promotional site that sells digital music to find underlying motivations to pay more than the minimum. Reciprocity, altruism,

social-image concerns, guilt, and social norms were all shown to be triggered by an explicitly shown reference price. The proper framing of a reference price drives people to pay around the amount of the recommended price. Gautier and Van der Klaauw (2010) studied sample selection in a field experiment with voluntary payments for a nights stay at a hotel. Voluntary and non-voluntary participants were subjected to different framings of reference prices. Only non-voluntary participants were shown to respond to changes in explicitly shown reference price. To be successful, a PWYW promotion needs to have loyal fans who want to support the cause and the product sold should be non-rival and non-excludable.

3 RESEARCH FRAMEWORK

This study investigates consumer reactions to online PWYW pricing mechanisms. The research framework is based on previous studies of PWYW. Kim et al. (2009) studied several settings with PWYW pricing mechanisms and various influence strategies. Gneezy et al. (2010) studied social responsibility through a field experiment in PWYW and charitable giving. This study will give understanding to how consumers perceive PWYW promotions online but also give insight into how the framing of the promotion affects the purchase reactions of the consumer (Tversky and Kahneman 1981). Understanding how consumers react to different setups of PWYW campaigns will result in more pertinent managerial implications. Reference price, availability of promotion, and anonymity of payment were chosen as PWYW promotion features. Price (price they would pay, estimated market price, and fair price), search intentions and purchase intentions were chosen as consumer reaction variables. Figure 1 illustrates this research framework.

Figure 1. Research framework



3.1 Reference price

Reference price is the amount of money a customer thinks a product normally costs. Consumers have expectations about the price of products. These price expectations, or reference prices, play an important role in choice processes (Kannan and Kopalle 2001). Reference prices are a function of the frequency consumers shop for a product, how standardized the product is, and the consumer's level of involvement in the product being purchased. Due to reduced search costs, prices are perceived to be lower on the internet, and the reference prices for online shoppers are also lower.

In price comparison research, buyers' judgments of advertised prices depends not only on the price, but also on contextual cues within the promotion, situational influences surrounding buyers, and on the buyers' internal reference prices (Grewal et al. 1998) Internal reference price is the price or price scale in buyer's memories that serves as a basis for judging actual prices. These internal reference prices are positively influenced by perceived quality, advertised selling price, and advertised reference price. Advertised reference price has been shown to shift internal

reference prices in their direction. Perceptions of value (acquisition value and transaction value) then increase purchase intentions.

Chandrashekar and Grewal (2003) studied how the level of involvement influences the assimilation of an advertised reference price into consumers' existing internal reference prices. It was shown that in low involvement situations, consumers are more likely to depend on additional heuristics such as presence of a regular price or other semantic and contextual cues. These could induce change in the consumers' internal reference prices regardless of the magnitude of discrepancy between internal reference prices and the advertised reference price. For successful posting of an advertised reference price, vendors must have adequate knowledge of the range of consumers' internal reference prices in the high and low involvement processes.

Gwebu et al. (2011) studied how price cues can be used strategically to influence consumers' perceptions and increase the amount that they bid in name your own price auctions. They attempted to show how NYOP auctions can use a price recommendation to persuade consumers to bid higher, to improve margins, and attract more buyers to increase sales volume. They studied three levels of price recommendations including a high but implausible recommendation, a low but plausible recommendation, and a range price recommendation bounded by the other two recommendations. These framing reference prices were all shown to have an anchor effect on consumers' value and bid estimations. Consumers generally viewed the range and low plausible price recommendations as more useful in aiding their decision making than high implausible recommendations. NYOP retailers can increase profit through the provision of higher reference prices. Overinflating this displayed recommended price can have negative connotations however which could have severe consequences.

Chernev (2003) studied consumers' willingness to pay in consumer price generation and price selection situations. In these situations as well as in PWYW situations, the consumer must be able to articulate their product utility in monetary terms. The presence of an externally provided reference price facilitates this process. Without a posted reference price, consumers often lack a benchmark from which to choose a price to pay. Price generation processes are moderated by readily available reference prices, either internal or external. Wolk and Spann's (2008) study of the effects of reference prices on bidding behavior found significant influences of different reference price concepts on bid values. It was shown that after controlling for internal and external reference prices, sellers only have limited ability to affect bid values through provision of an advertised reference price. The traditional comparative price assessment does not apply in interactive pricing situations where a consumer no longer faces a posted price. The reference price posted now plays a more important role in a situation of product value uncertainty. It can influence the process in which bid value is formed and decision on whether or not to take part in the auction. By providing a suggested retail price, a seller can relieve uncertainty of accuracy of a consumer's internal reference price. Final bid value therefore does not depend on one specific price, but on several sources of value information. Advertised reference price is shown to only lessen search intentions when it is perceived as believable.

Kamins et al. (2004) study of internet auctions discussed the impact of two external reference price points that are under a seller's control on the final price paid. They studied the framing of provided reference prices in terms of high (reserve price) and low (minimum bid) external reference prices. The final bid was shown to be greater when the higher external reference price was provided. Providing only a low reference price resulted in less than providing no reference

price. The marketer supplied description of price serves as an anchor for buyers' formation of new reference price.

McKechnie et al. (2012) examined the framing effects of discount presentation in comparative price advertising in low price and high price contexts. Comparing a sale price with some higher reference price in principle enables the retailer to demonstrate that the specific purchase offers superior value because of the reduced price. The value of the offer is then a function of acquisition and transaction values as well as the selling price and the consumers' internal reference price.

Previous PWYW research has indicated two principle components for prices paid: buyers' reference price for the product and the proportion of that reference price the buyer is willing to discharge to the seller for that product (Kim et al. 2009). If a consumer perceives a product as being on sale often, their internal reference price decreases (Krishna 1991). This is due to their constructed preferences based on cues to determine willingness to pay. These cues can be the customers' internal reference price or an external reference price. Consumers use past experiences and provided external prices as these cues. Price acceptance research shows that there is a range of acceptable prices internal to the customer. If a product's price is within that range then the product is deemed acceptable (Kannan and Kopalle 2001). The following hypotheses are built based on the assumption that the consumers' reference price has a positive relationship with the displayed reference price of the promotion.

H1a. There is a positive relationship between consumers' reference price and the price they will pay.

H1b. There is a positive relationship between consumers' reference price and their purchase intentions

H1c. There is a negative relationship between consumers' reference price and their search intentions.

3.2 Promotion availability

Past research on the availability of products or services sold through a pricing promotion has generally dealt with consumers' reactions to scarcity of commodities. Commodities can be made more valuable or desirable by manipulating their perceived scarcity (Lynn 1991). The scarcity of these commodities was generally based on limited supply or limited availability. Sales promotions can also seek to create perceptions of scarcity through its framing and semantics. Some common examples are 'limited time only', 'one per customer', or 'while supplies last' techniques. A time limited pricing offer is shown to be a form of restriction which increases the perceived unavailability or scarcity of the offer (Inman et al. 1997). Inman et al. (1997) studied the role of restrictions when framing a promotion. They define a restriction as a tactic that curtails a consumer's freedom to purchase a market offering. Presence of a restriction is shown to activate a cognitive resource that is used in evaluating an offering. In the absence of other information, the restriction leads to a judgment of 'good value'. The effect of the restriction is however modified by the presence of other variables. Our study hopes to add to this research by examining the effects of a provided reference price in conjunction with other variables. Limited time offers were shown to increase the transaction value associated with the offer. Consumers use their internal reference price to evaluate these time limited promotions. The correct

combination of an ambiguous claim with a vague scarcity restriction can lead to increased purchase decisions. When utilized for an exaggerate price reduction, the combination can lead to greater perceived informational value of the offer than one without the scarcity restriction (Tan and Chua 2004).

Cyber promotions with longer time limits result in lower time pressure perceptions and time limited cues increase consumer willingness to purchase (Teng and Huang 2007). Devlin et al. (2007) showed that time-limited promotions encourage consumers to end additional searches for information. This forces the consumer to buy the product and limits their exposure to competition. Limiting the duration of a promotion has an accelerating effect on purchases made by consumers (Aggarwal and Vaidyanathan (2003). When restrictions are placed on a promotional offer, the offer itself becomes a scarce resource enhancing the desire to purchase (Aggarwal et al. 2011).

H2a. There is a negative relationship between amount of time left in the promotion and the final price paid by the buyer

H2b. There is a negative relationship between amount of time left in the promotion and purchase intentions of the buyer.

H2c. There is a positive relationship between the amount of time left in the promotion and search intentions of the buyer.

3.3 Payment anonymity

The proven successful PWYW promotion company used as a basis for this study utilizes a charity aspect to entice existing customers to pay more than the minimum and to attract potential new customers. The top contributors and the amounts they paid for the product is displayed on the PWYW promotion page. This was chosen as the anonymity feature of the promotions framing to be studied. Previous research on charity donations has consisted mainly of physiological needs and personal and social motivations (Proença and Pereira, 2008). Consumers contributing to charities or purchasing charity linked goods are shown to be motivated a number of needs including social needs (to be a member of a group) and symbolic needs (related to symbols of success, status, or power) (Foxall and Goldsmith 1994). Social shopping and the influence of others also play a part on consumer behavior related to charity-linked products (Proença and Pereira, 2008). Gneezy et al. (2011) showed that people care about their self-image and therefore pay more than the minimum for products they could get for free in PWYW situations. Monetary incentives are shown to be more effective in increasing charity donations in private rather than public settings. When a customer does choose to pay for a product it serves to maintain their positive self-image. Soetevent (2005) studied anonymity through church donations collected by either closed collection bags or open collection baskets. Non-anonymous collecting methods were shown to have a positive impact on contributions to external causes (charity) but not on internal causes (public good). People also shifted to more valuable coins when anonymity was removed for internal and external causes. A consumer is more willing to donate to an organization the more likely is the intended audience is to hear about the decision (Glazer and Konrad (1996). Ariely et al. (2009) studied prosocial behavior through charity giving. They showed that people act more prosocially in public rather than private settings.

Monetary incentives are again shown to only be effective in facilitating private rather than public prosocial activity. People desire to be seen by others when they are doing ‘good.’

Anonymity of payment has also been studied extensively through economic and dictator games. Dictator games usually involve one of the players, the dictator, receiving a sum of money and a set of instructions (Aguiar 2008). The instructions explain that the money has been assigned to two players but that only the dictator has the power to disperse amongst them. Three forms of information have a significant impact on the decision behavior of the dictator: information related to the dictator or whether or not the decision is visible to others, information the dictator receives about the recipient, and information from the game framing and language used in the instructions (Aguiar 2008). The dictators’ behavior can be understood in terms of social or moral distance and the outcomes of the experiment change considerably depending on the information provided by the experimenters.

When anonymity is relaxed, information about the dictator is revealed, donations are generally higher because of the reduced social distance. If dictators cannot hide behind anonymity, they feel urged to give something, but do not feel obliged to give more (Engel 2011). Decreasing social distance increases other-regarding behavior (Bohnet and Frey 1999). There can be several reasons for this non-selfish behavior. Alpizar et al. (2007) gave several potential reasons: people prefer to conform to what others do, people reciprocate, and people are motivated by their own view of themselves and by how others view them. They show that anonymity does decrease contributions as publicly observable contributions significantly increased average contribution. They also show how reciprocity affects whether or not participants contribute. People tend to increase their contributions if it is observable that other participants did also. In terms of

anonymity, non-anonymous tests received significantly higher contributions, but in terms of reciprocity it increases probability of contributing, but lowers total contribution.

Haley and Fessler (2005) showed how subtle cues can affect the generosity of participants in anonymous economic games. Decision making processes are affected by both explicit propositional knowledge and judgments elicited by the subtle tacit cues. Reputation formation plays a large role in sustaining cooperation and prosocial behavior; however they can only explain some of that behavior. Some individuals are shown to behave in a prosocial behavior whether there is a possibility of reputation formation or not. They show that participants in economic games are provided with information that is readily represented as propositional statements for use by explicit reasoning process. However behavior is also determined by contextual cues that play a role in more tacit or intuitive assessment of the decision problem. They conclude that many types of input relevant to questions of anonymity and observability will indeed influence prosocial behavior and that each individual has different sensitivity to these inputs.

Research on the presence of a top contributors list is however, very limited. Elfenbein and McManus (2010) studied prices paid by consumers for charity-linked products through EBay, another participative pricing mechanism. EBay charity auctions include the list of top-contributors bidding for an item. These stimulated bidding wars which were shown to increase bid sizes for all contributors more so than for the same product sold under non-charity mechanisms. For the purpose of our study, we take it to mean that having the presence of a top contributors list is a cue that it is possible for the transaction to not be anonymous, so therefore consumers would behave as though the payment is not anonymous.

H3a. Consumers will pay a higher price for promotions with a public display of contributors.

H3b. Consumers will have greater purchase intentions for promotions with a public display of contributors.

H3c. Consumers will have less search intentions for promotions with a public display of contributors.

3.4 Interaction between variables

Although it is interesting to study the effect of each independent variable with price paid and purchase and search intentions, it is also relevant to see how consumers value each unique combination of features. When combined, features of a promotion can be better perceived as a whole than as individual features. It is possible that the impact of a feature of a promotion can be stronger making another feature obsolete (D'Astous and Landreville 2003). The following hypotheses are based on the assumption that the combination with the highest perceived value would have a high reference price, a short time period of availability, and be publicly viewed.

H4a. When a promotion incorporates a high reference price, has a short amount of time left, and is public, consumers will pay a higher price than with any other combination of features.

H4b. Consumers' purchase intentions of a promotional offer that incorporates a high reference price, has a short amount of time left, and is public, are higher than with any other combination of features.

H4c. Consumers' search intentions of a promotional offer that incorporates a high reference price, has a short amount of time left, and is public, are lower than with any other combination of features.

4 METHODOLOGY

The objective of this study was to gain understanding of consumers' reactions to PWYW sales campaigns by experimenting with a fictional campaign based on an already successful online PWYW campaign that incorporates different sales promotion features. In this section we qualify the methodological choices and provide understanding of the research sample and setting.

4.1 Research design

An experiment was conducted with a group of customers ($n= 3743$) of an existing company that utilizes an online PWYW pricing mechanism. Promotion features were manipulated in a between-subjects $2 \times 2 \times 2$ factorial design. Reference price, promotional availability, and anonymity of payment were chosen as influence strategies to be manipulated because they were already recognized to be part of the sales mechanism by customers. The experiment could then be seen as consistent with the actual sales webpage and would be fully understood by those surveyed. PWYW promotions were prepared to correspond to the eight ($2 \times 2 \times 2$) different possibilities the studied features enabled. This allowed for later examination of how changing one feature of the promotion altered consumer reactions. Each customer was shown only one of the tested eight promotions at random. Between-subject design was chosen because it requires

fewer assumptions than research based on a single participant choosing between alternatives (Myers and Well, 2003).

The research was conducted through an online video game sales platform that sells various digital games available for download. The company sells multiple games at a time, combined into a video game bundle. Bundles are sold through a PWYW pricing mechanism that allows for customers to pay any price starting from \$0.01. Each bundle is available only for a limited time, generally two weeks. Customers are allowed to divide the price paid between the sales company, developers of the games, or to a designated charity. The online purchase page has multiple sources of real-time information that help to influence consumers into paying more than \$0.01. These include: the amount of time left of the bundles purchase period, the top ten contributors and their amount paid, and a reference price designated “If purchased separately, these games would normally cost \$X, but we are letting you set the price.” These framing aspects are labeled promotional availability, anonymity of payment, and reference price.

The same fictitious bundle was utilized for all eight tested promotions, as the aim is to study the effects of promotion features rather than the bundle itself. The bundle was put together using graphics from the company’s actual PWYW promotional webpage to keep the look and feel that the customer sample was already familiar with. In all eight alternative PWYW promotions, all elements except for the changing features were kept constant. Figure 2 represents one of the eight PWYW promotion bundles.

Figure 2. Example of one experiment condition



4.2 Measures and data collection

The research sample consisted of existing fans and customers of the PWYW service. Customers were recruited to the survey through Twitter. A Tweet was sent by the company asking customers who had purchased at least one bundle to complete the survey (94% had purchased at least one). A total of 3,743 customers responded to the request. The respondents' demographics reflect those of the average video game consumer with an average age of 25 years and a majority being male at 96%.

After the respondents were exposed to the fictitious bundles, they were asked to answer several questions regarding the price they would pay (How much would you pay, What is your estimate of the market price of the bundle, What do you think would be a fair price for the bundle). These questions required a numerical response. They were also asked about their purchase intentions (If I was going to buy games I would probably buy the example bundle of games, I would

consider buying the example bundle of games, The likelihood that I would purchase the example bundle of games is high) and search intentions (If I was considering buying the example bundle of games, I would visit other stores that sell games to check prices, I would need to search for more information about prices of alternative games, I would visit other stores that sell games for a lower price). These questions were answered on a seven-point Likert-type scale from 1 (Strongly disagree) to 7 (Strongly agree) (Malhotra and Birks 2007).

5 RESULTS

This section will demonstrate the results of analysis that allowed the examination of the differences between the promotions, as well as the interactions between the different features of the PWYW campaigns. The survey results were analyzed using SPSS software.

5.1 Definition of variables

5.1.1 Definitions including search intentions

Factor analysis was used to confirm the research constructs. After removal of outliers the data had good qualifications for executing the analysis (KMO 0.732, $p < 0,001$) and was subjected to principle axis factoring (communalities $> 0,3$). Varimax rotation method with Kaiser normalization was used and it was converged in three iterations. Two factors were revealed (Eigenvalue > 1) that represented 67,44 % of the total variation in the data and they loaded on the constructs they were intended. Three items (I would visit other stores that sell games for a lower price, I would visit other stores that sell games to check their prices, I would need to

search for more information about prices of alternative games) loaded highly (average loading = 0,82) on the first factor that was interpreted as ‘search intentions’ of the promotional offer.

Three items (The likelihood that I would purchase the example bundle of games is high, I would consider buying the example bundle of games, If I was going to buy games I would probably buy the example bundle of games) loaded highly (average loading = 0,82) on the second factor that was interpreted as ‘purchase intentions’ of the promotional offer.

5.1.2 Definitions without search intentions

Factor analysis was used to confirm the research construct of purchase intentions without the inclusion of search intentions for the purpose of simplicity. After removal of outliers the data had good qualifications for executing the analysis (KMO 0.725, $p < 0,001$) and was subjected to principle axis factoring (communalities $> 0,3$). Nine iterations were required. One factor was revealed (Eigenvalue > 1) that represented 66,81 % of the total variation in the data and it loaded on the construct it was intended. Three items (The likelihood that I would purchase the example bundle of games is high, I would consider buying the example bundle of games, If I was going to buy games I would probably buy the example bundle of games) loaded highly (average loading = 0,82) on the factor that was interpreted as ‘purchase intentions’ of the promotional offer.

5.2 ANOVA Models

5.2.1 ANOVA including search intentions

One-way ANOVA models were used to analyze the experimental data. A preliminary analysis of variance was done to see if price (price paid, est. market price, est. fair price), purchase intentions, and search intentions vary across the eight different versions of the PWYW promotions. The between-subject factor was the different versions of the promotion. Prices, purchase intentions, and search intentions were used as dependent variables. The differences in the means of the dependent variables were shown as very statistically significant across the eight versions of the promotion: price paid ($F= 6.81, p < 0.01$), estimated market price ($F= 81.33, p < 0.01$), estimated fair price ($F= 31.10, p < 0.01$). In the case of purchase intentions, the differences were also statistically significant ($F= 2.09, p < 0.05$). The differences were not significant in the case of search intentions.

ANOVA models were then conducted. Analysis of variance was conducted five times using price paid, estimated market price, estimated fair price, search intentions, and purchase intentions as dependent variables. The between-subject factor for all of the models were reference price (high/low), availability, (short time period/long time period), and anonymity (public/anonymous). The results of the five ANOVA models are presented in table 1.

Table 1. ANOVA Result with search intentions factor

Source of variation	Dependent variable				
	Price <i>F</i> -statistic	Market price <i>F</i> -statistic	Fair price <i>F</i> -statistic	Purchase intentions <i>F</i> -statistic	Search intentions <i>F</i> -statistic
Interaction (A x B x C)	6,81 **	81,33 **	31,10 **	2,06 *	1.53
Reference price (A)	38,72 **	556,22 **	206,51 **	0.42	0.36
Availability (B)	2.23	21,92 **	4,53 *	1.12	0.29
Anonymity (C)	0.76	0.66	0.53	0.42	0.52

Notes: * $p < 0.05$, ** $p < 0.01$

The triple interaction between reference price, availability, and anonymity was shown as very significant ($p < .01$) in the cases of price, market price, and fair price and as significant ($p < .05$) in the case of purchase intentions. For the individual promotion features, reference price had statistically very significant impact on three of the cases: price (H1a: $F = 38.72$, $p < .01$), market price ($F = 556.22$, $p < .01$), and fair price ($F = 206.51$, $p < .01$). The promotion feature of availability also had very significant impact on market price ($F = 21.92$, $p < .01$) and significant impact on fair price ($F = 4.53$, $p < .05$). As presented in table 3, the highest mean (= 11.62 dollars) for the price variable was the combination public x high reference price x short availability (H4a supported). The lowest price mean (= 8.64 dollars) was for the combination anonymous x low reference price x short availability. Purchase intentions were highest with the combination anonymous x high reference price x short availability. Search intentions were highest with the combination anonymous x low reference price x short availability.

5.2.2 ANOVA without search intentions

One-way ANOVA models were used to analyze the experimental data. A preliminary analysis of variance was done to see if price (price paid, est. market price, est. fair price) and purchase intentions varies across the eight different versions of the PWYW promotions. The between-subject factor was the different versions of the promotion, and prices and purchase intentions were used as dependent variables. The differences in the means of the dependent variables were shown as very statistically significant across the eight versions of the promotion: price paid ($F=6.81, p < 0.01$), estimated market price ($F=81.33, p < 0.01$), estimated fair price ($F=31.10, p < 0.01$). In the case of purchase intentions, the differences were also statistically significant ($F=2.09, p < 0.05$).

ANOVA models were then conducted. Analysis of variance was conducted four times using price paid, estimated market price, estimated fair price, and purchase intentions as dependent variables. The between-subject factor for all of the models were reference price (high/low), availability, (short time period/long time period), and anonymity (public/anonymous). The results of the four ANOVA models are presented in table 2.

Table 2. ANOVA Result without search intentions factor

Source of variation	Dependent variable			
	Price	Market price	Fair price	Purchase intentions
	<i>F</i> -statistic	<i>F</i> -statistic	<i>F</i> -statistic	<i>F</i> -statistic
Interaction (A x B x C)	6,81 **	81,33 **	31,10 **	2,09 *
Reference price (A)	38,72 **	556,22 **	206,51 **	0,42
Availability (B)	2,23	21,92 **	4,53 *	1,12
Anonymity (C)	0,76	0,66	0,53	0,42

Notes: * $p < 0.05$, ** $p < 0.01$

The triple interaction between reference price, availability, and anonymity was shown as very significant ($p < .01$) in the cases of price, market price, and fair price and as significant ($p < .05$) in the case of purchase intentions. For the individual promotion features, reference price had statistically very significant impact on three of the cases: price (H1a: $F = 38.72$, $p < .01$), market price ($F = 556.22$, $p < .01$), and fair price ($F = 206.51$, $p < .01$). The promotion feature of availability also had very significant impact on market price ($F = 21.92$, $p < .01$) and significant impact on fair price ($F = 4.53$, $p < .05$). As presented in table 3, the highest mean (= 11.62 dollars) for the price variable was the combination public x high reference price x short availability (H4a supported). The lowest price mean (= 8.64 dollars) was for the combination anonymous x low reference price x short availability. Purchase intentions were highest with the combination anonymous x high reference price x short availability.

Figure 3. The nature of the Reference price x Promotion availability x Anonymity of the payment -interaction as for the Price consumer would pay

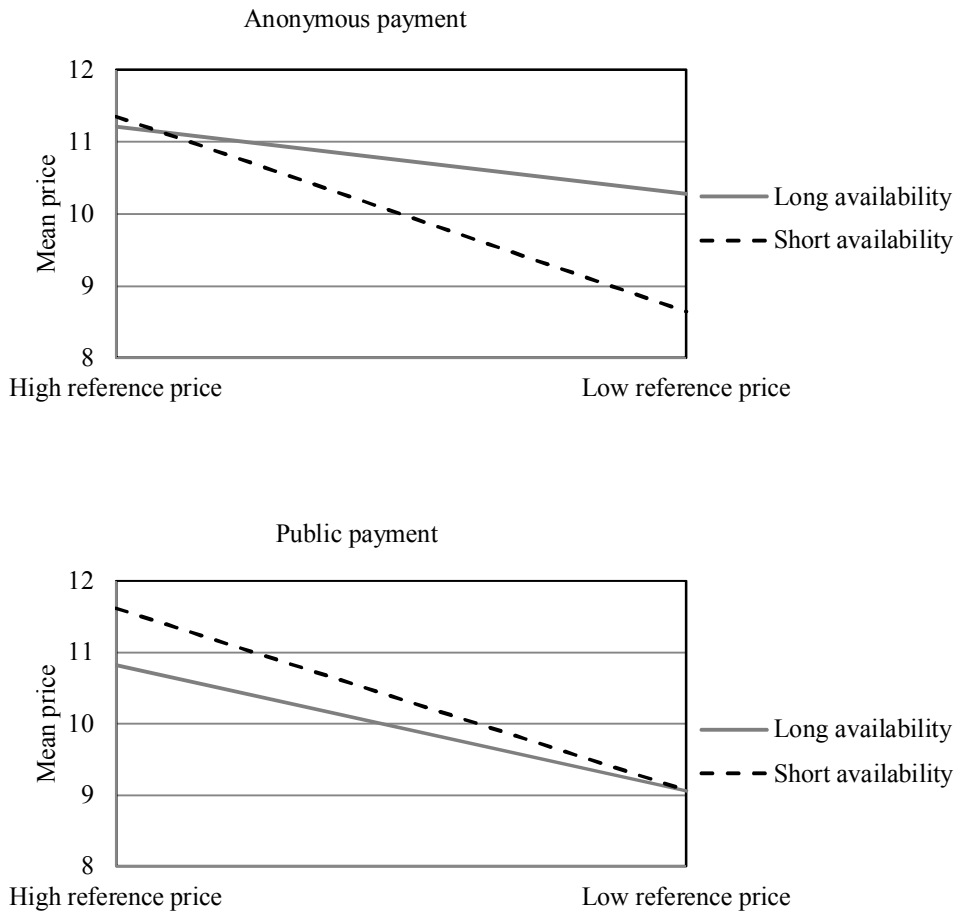


Figure 3 shows the output of the nature of the anonymity x reference price x availability interaction means of price. The first plot represents the anonymous promotion output and the second represents the public promotion output. The higher mean represents a higher price that they would pay for the promotion bundle. The interaction means patterns represent the impact of the reference price on both public and anonymous promotions. Both promotions interaction patterns clearly demonstrate how consumer would pay higher prices when the displayed reference price is high. The low reference price is shown to not lower price paid as drastically in

the anonymous setting as in the public setting when the promotion is available for a long period of time. Plots for fair price and market price reflected similar trends with little variation between anonymous and public promotion offerings.

Figure 4. The nature of the Reference price x Promotion availability x Anonymity of the payment -interaction as for Purchase intentions

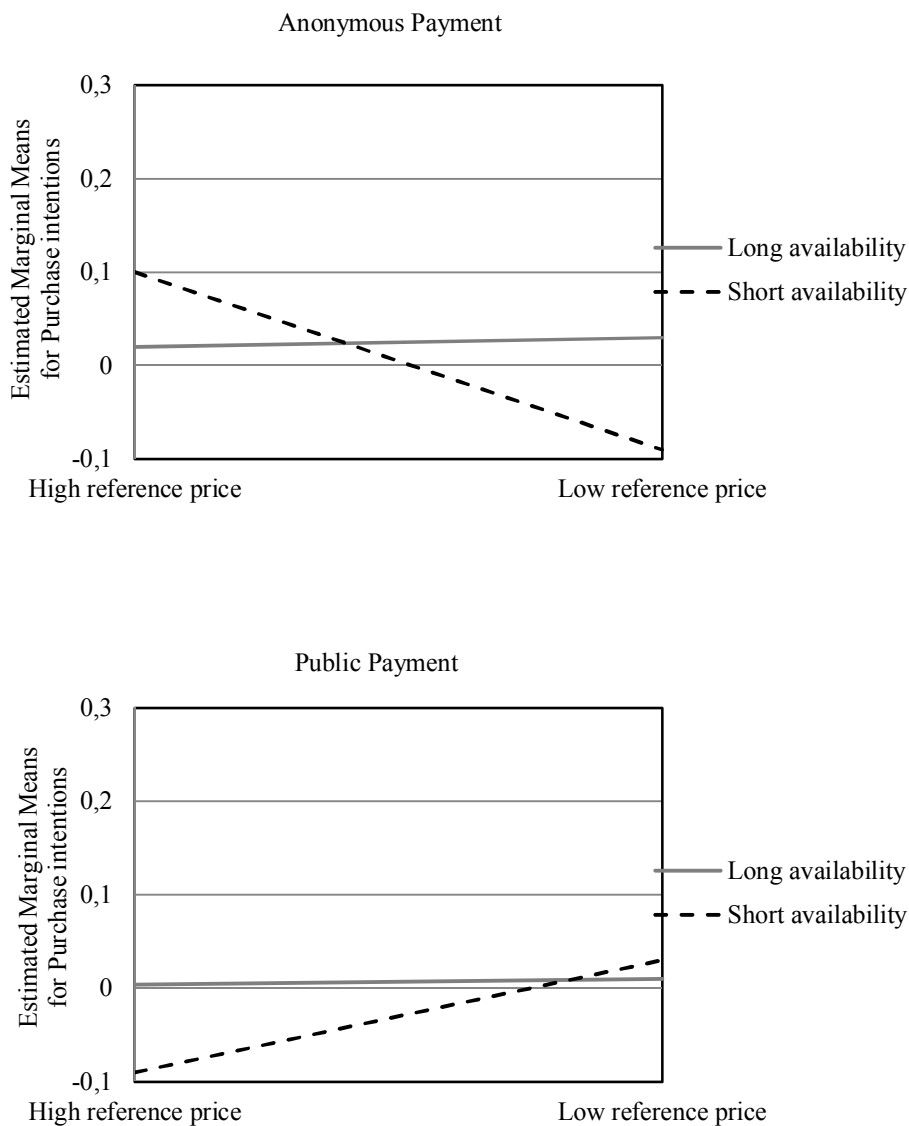
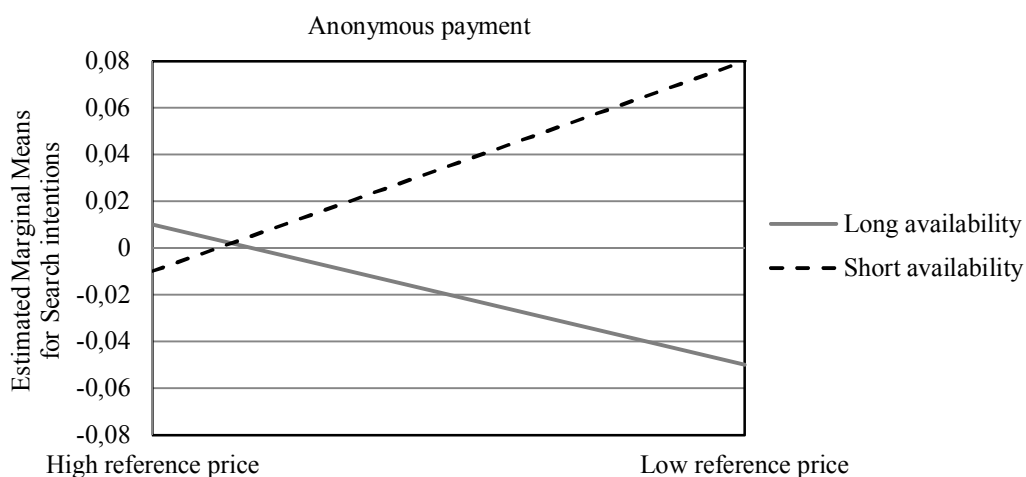


Figure 4 shows the output of the nature of the anonymity x reference price x availability interaction means in relation to purchase intentions measure. The first plot represents the anonymous promotion output and the second plot represents the public promotion output. The higher mean represents greater purchase intentions. Again, both plots reveal that the amount of availability of the promotion is relevant for purchase intentions. For anonymous promotions, long availability creates more purchase intentions. However if the reference price is high, short availability creates slightly more purchase intentions. When the promotion was public, long availability created more desire to purchase. However, when the reference price was low and there was short availability of the promotion, purchase intentions were slightly higher than those for long availability. Overall there were more purchase intentions in the anonymous promotion than in the public promotion which was negligible.

Figure 5. The nature of the Reference price x Promotion availability x Anonymity of the payment -interaction as for Search intentions



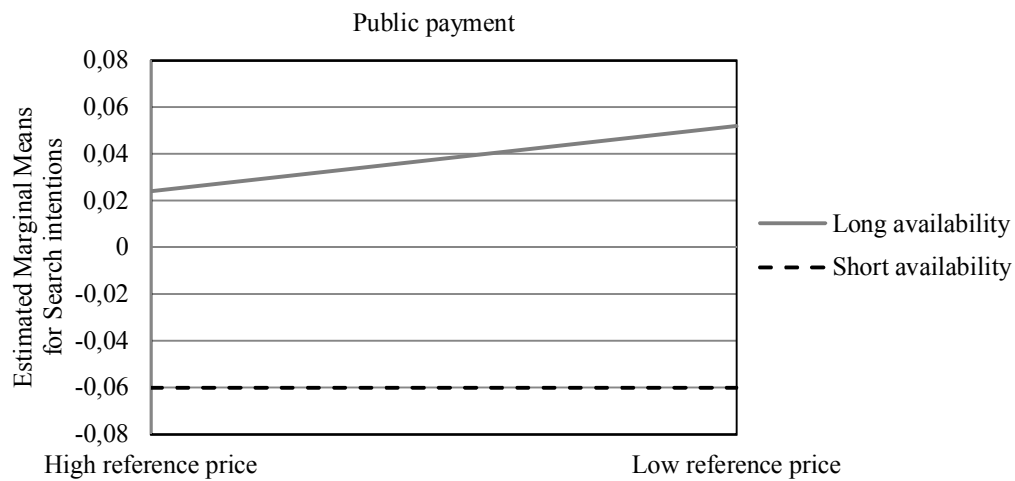


Figure 5 shows the output of the nature of the anonymity x reference price x availability interaction means in relation to the search intention measure. The first plot represents the anonymous promotion output and the second represents the public promotion output. The higher mean represents greater search intentions. The amount of availability is shown to be relevant in both cases of search intentions. When the promotion is anonymous, long availability of the promotion creates less desire to search for alternatives or better prices. However, if the reference price is high, long availability creates slightly more search intentions. The interaction pattern of the public promotion shows that short availability of the promotion will lead to very low search intentions, as people will want to purchase immediately. When the promotion is available for a long period of time, there is always some intention to search.

6 DISCUSSION

With innovative new selling techniques such as PWYW and other participative and dynamic pricing, there has been little research of consumer responses to promotional offers. This paper hopes to provide insight into the framing aspects of the promotion that can be manipulated to encourage positive response. The interactions between the three framing features revealed interesting results. Of the eight versions of the PWYW promotion, the highest price paid was indeed for the one that displayed a high reference price, was public, and was available for less time. This was consistent with our predicted best combination of framing features. The promotion that resulted in the highest purchase intentions was the one that was anonymous, had the highest reference price, and a short period of availability. This was contradictory to our predictions for highest purchase intentions combination of features. The interaction of the features creates a frame where consumers have short period of time to buy a high perceived value item with ease and no guilt of paying a small amount.

6.1 Reference Price – Most influential variable, but regulated by other information variables

Reference price was indeed the most prominent influencing factor that we changed throughout our experiment. With respect to the price paid by consumers, the controlled variable of displayed reference price had a significant positive impact. This supports previous research findings showing the internal reference price of the consumer was increased due to the external framing cue of a high reference price (Grewal et al. 1998) and that this internal reference price translates to higher prices paid (Kim et al. 2009). With respect to purchase intentions of the

consumer, reference price did not have a significant impact. Kannan and Kopalle (2001) showed how reference prices in the form of price expectations play an important role in choice processes and our research clearly shows reference price changing consumer reactions. This internal reference price was shown as being positively influenced by perceived quality, advertised selling price, and advertised reference price by Grewal et al. (1998). We assumed the perceived quality in our example promotion to be of good quality as it was a previously successful product launch. Our advertised sale price was negligible because it was whatever the consumer desired to pay and the reference price was the price we provided in the example promotion. The consumers' internal reference price based on past purchases and knowledge and based on our provided contextual reference price was indeed positively influenced by our manipulations of the experiment. This follows Gwebu et al. (2001) who showed that framing reference prices have an anchor affect on consumers' value and bid estimations in name your own price mechanisms. Because the price is anything they want to pay, it automatically falls within the range that they deem acceptable (Kannan and Kopalle 2001) and the reference price then determines how much they will pay.

Chandrashekar and Grewal (2003) showed that in low involvement situations consumers are more likely to depend on the additional cues available to influence their internal reference price. As our study and participative pricing situations in general are high involvement, this could explain why the posted reference prices that we manipulated did positively influence prices paid, but did not result in prices paid being similar to the reference prices. Prices paid were all generally considerably lower than the reference prices posted indicating that the consumers already have an accurate internal reference price. Higher reference prices did indeed result in higher prices paid, however they did not stray far from this already present internal reference

price. This follows Chernev (2003) who showed that less knowledgeable consumers need a posted reference price to serve as a benchmark when trying to articulate value in monetary terms. Our participants had previously purchased multiple similar products in real life situation and therefore already had a heavily engrained internal reference price. Price paid were again positively influenced but remained near what we assume to be the participants internal reference price.

Wolk and Spann (2008) showed similar results showing that sellers only have limited ability to affect bid values through provision of a reference price. This externally provided reference price plays a more important role when in a situation of product uncertainty. Even in situations of product certainty though, the reference price can still influence the process of bid formation and influence purchase and search intentions. Our study involved a product of somewhat known value to the consumers and reference price was shown to still influence the prices paid and purchase and search intentions. The interaction effect of our framing variables also shows that final price paid does rely on several sources of information including internal and external reference prices as well as availability and anonymity. Our results agree with Kamins et al. (2004) study showing that price paid was indeed higher when a higher external reference price was provided. Final price paid was shown to be a function of acquisition and transaction value as well as the selling price and internal and external reference prices (McKechnie et al. 2012).

6.2 Availability – Little individual influence, but has interactive affect

With respect to search intentions, none of the variables had a significant impact probably due to the fact that there is no better price or similar promotion as this unique offer. The promotional

availability was significant on the estimated market and fair prices, but was not as significant on the price paid or on purchase or search intentions of the consumer. This follows previous research showing scarcity of a promotion as increasing consumers' perceived value of the transaction, but that it is also mediated by the consumers' internal reference price as well as other variables (Inman et al. 1997). Availability of the promotion was shown to not have an individual effect on consumer responses however it did have pull when combined with the other experiment variables. Most research on promotion availability has consisted of traditional time limited promotional offers, but have provided similar results. Inman et al. (1997) showed that restrictions in promotions increase perceived unavailability or scarcity of the offer and this increased the perceived transaction value. This offer is then evaluated in conjunction with their internal reference price. Our research adds to this, showing that the correct combination of framing aspects including reference price and limited availability do in fact influence consumers' purchase decisions. Devlin et al. (2007) showed that time-limited promotions encourage consumers to end additional searches for information limiting their exposure to competition and forcing them to purchase. Our study showed short availability as leading to low search intentions when the payment was public. When anonymous, short availability of the promotion led to less search intentions when the reference price was high. Perhaps the influence of seeing others purchasing the product combined with a short time to purchase creates a higher perceived scarcity of the product. When there is long availability and it is anonymous then people feel they have time to seek outside information before returning to purchase without outside pressure. Limiting the duration had an accelerating effect on purchases made (Aggerwal and Vaidyanathan 2003) when the offer was public. The restriction on the offer could also have increased the

scarcity of the offer itself (Aggerwal et al. 2011) and we also showed that it did have an effect on the estimated market price and fair price. However this did not translate into higher prices paid.

6.3 Anonymity – Little individual influence, but has interactive affect

Purchase intentions were higher when the purchase was anonymous rather than public and the interaction between the three features had significant impact on them. Research on payment anonymity has not fully covered how its use as a promotional framing aspect can be utilized to increase purchases. Social motivations and physiological needs are the usual basis for anonymity studies. These include studies into anonymous charity donations and purchasing of charity linked goods. Social shopping and the influence of others have been shown to have an effect on consumer behavior related to charity linked goods (Proença and Pereira, 2008). Our study used the presence of a list of contributors as the anonymity variable in our experiment and it was shown to have an effect on consumers' purchase behavior when combined with the other two variables. The anonymity of the purchase variable alone was shown to have little significant impact on both price and intentions. This non-significance of anonymity could be due to the extreme prices paid by the displayed top contributors or an artifact of the experiment process. We do not know whether consumers were motivated by social needs or symbolic needs (Foxall and Goldsmith 1994). We also do not know if paying more than the minimum in PWYW situations is due to people caring about their self-images (Gneezy et al. 2011) or due to the many other information variables available. Glazer and Konrad (1996) showed that consumers are more willing to donate to an organization the more likely is the intended audience is to hear about the decision. The minimal influence of our anonymity variable could be due to the fact

that it was not a real life purchase situation where the intended organization would notice the amount paid and where real time updates of top contributor lists and information are available. Consumers could not actually show their motivations to pay and could not therefore actually improve upon their self-image. This also follows Ariely et al. (2009) who showed that people desire to be seen by others when they are doing 'good'.

Dictator games have given a little more insight into how people are motivated by the presence of others and the amount of knowledge each party has. When dictators cannot hide behind anonymity they feel urged to give something but do not feel obliged to give more (Engel 2011). Our study also showed similar interaction pattern results. Anonymity had no significant effect on price paid for the product offered or on purchase intentions by itself. It did however have an effect on purchase intentions when combined with the other framing variables. However our results show that consumers generally had higher purchase intentions when the payment was anonymous. This could be due to the fact that they do not feel obliged to pay a lot when it is anonymous and therefore many more will purchase, but at a lower price. Alpizar et al. (2007) showed that people tend to increase their contributions if it is observable that other participants did also. Non-anonymous tests resulted in higher contributions, but in terms of reciprocity it increases probability of contributing but lowers total contribution. We show that anonymity did not have an effect on price paid, but did in fact lower purchase intentions when the payment was public. The contextual cue of anonymity did play a role in shifting consumer responses to the offer, but not a significant one. Perhaps our chosen experimental variable was not properly applied. Haley and Foster (2005) stated that there are many types of input relevant to questions of anonymity and observability and these indeed influence prosocial behavior. However each consumer has a different sensitivity to these inputs.

6.4 Dynamic Pricing

In terms of dynamic pricing, our study of a PWYW situation inherently involved the aspects of illusion of control and lateral consumer relationship (Lee et al. 2011). Illusion of control involves intention to achieve the outcome and the perceived connection between ones actions and the desired outcomes. Because the consumers studied all participated in the study they felt a notion of perceived control. This possibly led to the high level of intent to purchase amongst those studied. The lateral consumer relationship then involves the price perceptions that come from comparing the price they paid to the price others paid for similar products (Lee et al. 2011, Thomson 1999). Because our study had no visible comparative price except for the provided reference price we do not know the effects of this lateral consumer relationship on our subjects.

6.5 Participative Pricing

Participative pricing mechanisms such as PWYW also involve elements of consumer control. Chandran (2003) showed how strategic use of participative pricing mechanisms can stimulate demand. This can be shown by the real exponential growth of the particular promotional website that was studied. By participating in the pricing, consumers perceive control over the process. Because the PWYW process involves such focus on setting the final price, consumers focus on that rather than evaluating the deal itself. Consumers who view the studied PWYW website, they generally always have some intent to purchase, even if at the minimum price. Those that have participated in the past then generally prefer participative pricing to normal pricing settings (Chandran and Morwitz 2005). This can be shown through the high number of repeat purchasers from our survey results.

6.6 PWYW – Consumers can be influenced by framing variables to pay more than the minimum

Name your own price mechanism studies have shown that consumers choose to participate because they of the lack of frictional costs associated with online transactions (Hann and Terwiesch 2003). The PWYW setting that we studied also involved zero frictional costs. With no added fees and with one touch payment options currently available, the process of purchasing the supplied PWYW bundles is minimal. This could explain the high purchase intentions and repeat purchasers as shown in our study. Because consumers also have full control, as with all PWYW mechanisms, they tended to demonstrate high purchase intentions (Chandran and Morwitz 2005) with our study as well. The mindset of the consumer can be manipulated through the framing of the promotion to be more implemental. Consumers who visit the studied website are immediately drawn to the implementation of setting whatever price they desire rather than on evaluating the deal or searching for more information. This could explain the high purchase intentions shown. Consumers then pay the proportion of their internal reference price they are willing to discharge (Kim et al. 2009). Our study showed that the reference price of the consumers we studied was indeed influenced positively by the reference price we displayed. Because we had a high quality product, it came down to the framing aspects to determine how consumers would respond.

Marett et al. (2012) showed that Social Exchange Theory and the relationship between the seller and buyer in PWYW situations is important for long-term success. Because the consumers who participated in our experiment were mostly repeat purchasers from the example website we can assume that they seek to repeatedly gain the benefits provided by the website and therefore pay more than the minimum. Paying over zero is shown to signal the vendor that consumer would

like the deal again. Our results showed significant payments well over the minimum, also indicating that they would like to purchase again.

Gneezy et al. (2010) also showed that consumers' decision to purchase a PWYW product or service is moderated by their identity and self-image concerns. Consumers feel bad when they pay less than the 'appropriate price' causing them to pass on the opportunity. Our results show high purchase intentions, despite the actual amount to be paid. This could be due to the online environment where consumers do not have to be concerned about others seeing them pay lower than the recommended price. Willingness to pay could then be a result of issues of right and wrong and fairness rather than standard economic concepts as shown by Levitt (2006).

This follows Regner (2010) who showed that consumers in online PWYW situations are highly influenced by issues such as reciprocity and guilt. Our participants had no self-image risks or social norms to follow and were most likely also influenced by issues of reciprocity and guilt as well as internal reference price and external cues.

Gautier and Van der Klauuw (2010) stated that PWYW pricing situations require loyal fans for success. Our study involved avid consumers of the example website who can be shown to be loyal fans who wish to pay more than the minimum to make sure the promotions are always available.

6.7 Framing – Multiple framing variables in the same promotion have an interactive affect

The decision frame as described by Tversky and Kahnemann (1981) is controlled by the formulation of the problem as well as by the norms and personal characteristics of the consumer.

Consumers generally choose according to what they perceive to give them the highest expected utility. However, consumers do not always make rational decisions and are highly influenced by contextual cues in information provided by price offers (Sinha and Smith 2000). Our study also showed that consumers are highly sensitive to contextual cues and the proper framing of the promotion will indeed lead to greater price paid and purchase intentions and less search intentions. However choosing the correct combination of features can be a difficult undertaking. Levin et al. (1998) studied framing effects showing three types of framing effects that are governed by different process and therefore independent of each other. Our study involved the use of multiple framing cues to show how these independent variables can have an interactive effect on price paid and purchase intentions. McKechnie et al. (2012) showed that framing effects of discount presentation in comparative price advertising have an effect on transaction value and purchase intentions in low-price product contexts. Our study involved what we believe to be a low-priced product, and prices paid and purchase intentions were indeed influenced by the factors which we controlled. Gendall et al. (2006) stated that when price or price discount is the only available information cue, it can be overemphasized in their responses. Because our study included a provided reference price as well as other information cues, the resulting prices paid did not show overemphasis of this reference price, but did show that it had some influence. The price paid was positively influenced by reference price manipulations, but was regulated by the other information cues as well as the consumers' internal reference prices. This follows Inman et al. (1997) who showed that the effect of value information cues such as restrictions are not unified across all conditions because the effect is modified by the presence of other framing variables.

7 CONCLUSION AND MANAGERIAL IMPLICATIONS

Existing research into PWYW pricing mechanisms and the framing of the promotion must be expanded to include its application to digital environments and goods. This study contributes to existing research by offering insight into the online applicability of PWYW promotions. The previous successes of the studied online PWYW promotion already show it can indeed be profitable for companies. Digital goods are easily distributed and online transaction effort is minimal, allowing for effortless implementation of the pricing mechanism. The desire for companies implementing PWYW mechanisms online (and offline) then becomes a question of attracting new customers and getting them to pay more than the minimum price. The results of this study provide insight into how the framing of the promotion can lead to increased purchase intentions and prices paid.

External reference price cues provided by the displayed promotion do tend to increase the end price paid. Consumers' internal reference prices can be increased due to manipulation of external reference price (Grewal et al. 1998). By increasing the displayed reference price, we were able to positively influence the final prices paid by the consumer. We do not know if the higher reference price actually translated to an increase of the internal reference prices of the consumers or if the proportion of their internal reference price that they were willing to discharge to the seller increased (Kim et al. 2009). Increasing reference price displayed on the promotion will induce higher prices paid either way. This external reference price however will not completely determine the range of prices that consumers will pay. Participants in our survey were extremely knowledgeable about the product and were all accustomed to using this PWYW service. Average prices paid in previous real-life PWYW situations from the example website were very similar to the average prices paid in our experiment. This shows that the consumers

did not veer far from the internal reference prices that they had utilized in the past when determining price to pay. We were still able to increase the final prices paid by increasing the displayed reference price even if only slightly (Wolk and Spann 2008). This indicates that even highly knowledgeable consumers with experience in PWYW situations can be induced to pay more. Higher reference price can be utilized in promotions of all types as long as they are believable and not overinflated (Gwebu et al 2011). Our chosen reference prices were examples already utilized by the example website and chosen due to their believability.

Having a scarcity restriction has been shown to increase consumers' perceived value of an offer, but the effects are mediated by other information variables such as internal reference price (Inman et al. 1997). Our results indicate that scarcity did not have an individual effect on our knowledgeable consumer base. Having already established accurate internal reference prices did not allow for much increase of value perceptions due to the increased scarcity. Limiting the availability did however have an interactive effect when mediated by the other available information variables. It did have a tendency to lessen search intentions and increase purchase intentions (Devlin et al. 2007, Aggerwal and Vaidyanathan 2003). Increasing scarcity did increase fair and market prices of the consumers but did not increase significantly the final prices paid. Availability restrictions can be utilized in PWYW situations to increase purchase intentions and perhaps value perceptions, but final price paid will indeed be heavily mediated by internal reference price and other variables.

Anonymity also did not have a significant individual effect on prices paid by the consumers. We expected non-anonymous payments to have higher average prices paid than anonymous ones (Glazer and Konrad 1996, Ariley et al. 2009). Our results indicated that anonymity did not change prices paid, but did have an interactive effect on purchase intentions and price. When

payments are to be made publicly, it tended to lower purchase intentions. Consumers do not wish to participate if they are going to be seen making small contributions. If the PWYW want mechanism is anonymous, people will be more likely to contribute, but at smaller amounts (Engel 2011).

The interaction of reference price, limited availability, and anonymity also affects the reactions of consumers and should be discussed before implementing any pricing strategy including PWYW. Choosing the right combination to maximize purchase intentions and the price consumers pay is necessary for a successful PWYW promotional launch. These framing aspects as well as many others must be taken into consideration before implementation can begin. Having multiple framing variables within the same promotion will undoubtedly have an interactive effect on the promotions effectiveness in translating to more purchases and higher prices paid. Consumers are highly influenced by contextual cues in price offers (Sinha and Smith 2000) including purchasers of PWYW offers. Reference price had the only individual effect on the prices paid by our participants, but there was also an interactive effect between our information variables that influenced purchase decisions and search intentions. The effects of the value information cues and other framing variables are not unified across all conditions (Inman et al. 1997). The effects of information cues are modified by the other framing variables as well as by the participants' internal reference prices and previous experiences. By understanding the targeted consumer group, promotional framing cues can be utilized successfully. Multiple framing cues can be combined in such a way that they have an increased positive impact on consumer responses than when utilized individually. Multiple framing cues when combined correctly can increase purchase intentions and prices paid while at the same time lessen search intentions for other information.

PWYW pricing mechanisms are perfectly suited for digital goods and online marketplaces. The innovativeness of the new digital pricing mechanism stands as an initial attracting point for online shoppers. Having access to millions of consumers online allows for the possibility of attracting a huge base of purchasing consumers. Promotion of the PWYW product and webpage does not only include the use of standard online marketing tools to gain customer awareness. The differentiated pricing and perceived control by the buyer, are cause for the spreading of awareness through other means such as word of mouth. Once a large number of consumers are attracted to the promotion, the framing of the offer can lead to a great increase in the price paid and the purchase intentions. By increasing the price paid and the purchase percentage rate of those that view the promotion, the seller can greatly reduce the risk of not breaking even. Once consumers view a PWYW offer that they are interested in, their mindset should be shifted to be more implemental rather than to evaluate the deal characteristics (Chandran and Morwitz 2005). Our consumers were repeat purchasers from the example website and our results of high purchase intentions reflected that they enjoy the product and process. Consumers then must rely on framing information to influence their value perceptions of the offer and process. They then pay the proportion of their new internal reference price to the seller that they are willing to discharge (Kim et al. 2009). Increasing reference price within a believable range, can induce either increase in value perception, internal reference price, or the proportion of the internal reference price willing to discharge. This final amount paid however is heavily mediated by other information sources, especially internal reference price. Social exchange theory and feelings of reciprocity also come into play (Marett et al. 2012, Regner 2010). There is no actual risk of losing face or hurting the self-image in online PWYW situations. Consumers must be motivated by ideas of reciprocity and a desire to receive the same type of offer again (Marett et

al. 2012). In order for a PWYW promotion to be successful long-term, they need to have a loyal following of consumers that are willing to show their appreciation by paying more than the minimum (Gautier and Van der Klauw 2010). Successfully offering a quality good under PWYW conditions will lead to increased brand awareness and appreciation of the good being sold and of the purchase process itself. Consumers who appreciate the goods and the transaction process will generally be likely to make repeat purchases under the same format.

8 LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

Our experiment studied the interaction effect of three framing variables on consumers' purchase decisions in a PWYW situation. Due to the limitations of the survey we only studied the effects of all three variables of reference price, availability, and anonymity together and we could not study the effects of having just two of the variables present. Further research into framing aspects could focus for example, on the double interaction effect of just reference price and anonymity or on just anonymity and availability together. These undoubtedly would have different impacts on consumer responses. The individual effects of anonymity and availability could have been overwhelmed by the significant effects of reference price. They could have had stronger effects had reference price been removed.

Our study did not go into depth into the understanding of perceived control of the participants of the experiment. Further research needs to be done to realize the true impact of this perceived control. Our study did not display the prices paid by other consumers for the same example product and therefore there was no comparable price for presence of lateral consumer relationships. This undoubtedly would have affected the outcomes of consumer responses to the

promotion. Our study did utilize the framing aspect of displayed reference price and this had a great significance on consumer responses. However, due to the need for survey simplicity, we only utilized two variables for reference price, one high and one low. The higher reference price did indeed positively influence the price paid by consumers, but it would be interesting to know the limits to which this applies. Further research needs to be completed to determine at what extremes the reference price becomes unrealistic. Too high and it can be perceived as grossly exaggerated or create a sense of distrust. Too low a reference price and the product offered could be seen as of low quality. We also do not know if the increased prices paid due to increased external reference price occurred because of an increase in internal reference price or because of an increase in the proportion of that internal reference price they were willing to discharge.

This study was conducted under experimental conditions that utilized framing aspects taken from an existing PWYW retailer. Customers evaluated and answered questions about a fictional PWYW promotion that resulted in no actual purchase being made. We also had no access to past purchase behavior of the participating consumers. Future research can extend the current research by studying responses and purchase data of real-world PWYW situations that result in actual purchases. The framing promotional display items were chosen by the company and have proved to be successful for the type of digital goods that they sell (video games). The results of this study are shown to affect the type of customers who are actively seeking new video games. It is unclear whether these framing aspects will have the same effect on consumers of other digital or physical goods. Future research of digital PWYW promotions should include situations where consumers are not active seekers of the product being sold. Different framing cue combinations should also be studied across a variety of goods. These different goods should

be of different product categories as well as in different price ranges. Other aspects besides reference price, availability, and anonymity would inevitably impact consumer reactions to PWYW promotions and should also be tested. The experiment of consumer responses to framing aspects of a PWYW promotion was conducted in a virtual online environment and has yet to be tested in physical locations and settings.

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