Antecedents, outcomes, and mediating role of internal reference prices in pay-what-you-want (PWYW) pricing

Purpose: This paper explores the mediating role of internal reference price (IRP) in a Pay-What-You-Want (PWYW) price setting. Specifically, it examines the effects of altruism, social desirability and price consciousness as the antecedents of IRP and consumers’ willingness to pay (WTP), future purchase intention and attitude towards the seller as the outcomes of IRP.

Methodology: The data for the study were collected from 272 respondents through a structured survey and analyzed through structural equation modelling technique using AMOS 22.0.

Findings: Altruism and social desirability positively influence IRP whereas price consciousness influences IRP negatively. IRP mediates the effects of altruism, social desirability and price consciousness on WTP, future purchase intention and attitude towards the seller.

Implications: PWYW pricing strategy can help attract consumers with selfless characteristics or a desire to behave in a socially appropriate manner but not those who are highly price conscious as reflected by the differences in the way in which their internal reference prices influence their WTP, future purchase intention and attitude toward the seller.

Originality: This paper introduces a parsimonious framework to explain how three consumer characteristics influence consumers’ pricing decisions in PWYW context. The finding that the effects of antecedent variables on WTP, attitude and future purchase intention are mediated by IRP provides new insights that have not been explored earlier.

Keywords: Pricing strategy, Internal reference price, Pay what you want (PWYW), Willingness to pay (WTP), Price consciousness, Social desirability, Altruism

Paper type: Research paper
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Introduction

Pay what you want (PWYW), a unique participative pricing strategy, is gaining popularity. Unlike conventional pricing strategies in which the firms control the final price paid by the consumers; PWYW pricing delegates this control to the buyers (Kim et al., 2009; Santana and Morwitz, 2011). Higher perceived control on the final price leads to greater purchase intentions (Chandran and Morwitz, 2005). Hence, a growing number of firms in different industries such as music, museums, software, and charity sales are using PWYW pricing (Schmidt, Spann and Zeithammer, 2014).

PWYW has some unique features that distinguish it from other participative pricing mechanisms such as auctions, negotiation, Name Your Own Price (NYOP) etc. For example, there is no threshold price set by the seller and the buyer can offer any price including a price of zero, which the seller has to accept without withdrawing the product offer. Past research have shed some light on understanding the underlying mechanisms and different factors that may influence consumers’ PWYW pricing decision (e.g. Kim et al., 2009; 2014; Gneezy et al., 2010; Schmidt et al., 2014). However, due to its unique nature and unsolved questions, we need more research on PWYW pricing (Roy, 2015).

Current research on PWYW reports many mixed results that warrant further investigation. For example, Kim et al. (2009) used theories of social-market relationships to build a model with several individual and pricing variables such as altruism, price consciousness and reference price; and conducted field experiments across different product categories to test their hypotheses. However, Kim et al. (2009) did not explore any mediating mechanism through which the key antecedents in their study (e.g., altruism, price consciousness, fairness, income and satisfaction) may have influenced their key dependent variable, willingness to pay (WTP). In addition, Kim et al.’s (2009) found the direct effects of their key variables (e.g., altruism, price consciousness etc.) significant for some product categories but not for others, or for the overall model. We suggest that one of the main reasons for
these inconsistent results could be that Kim et al. (2009) focus on direct effects of the antecedents in their model on the outcome variables, ignoring the possible role of a mediating variable such as internal reference price, despite substantial evidence about the mediating role of internal reference price (IRP) on consumers’ judgment and decision (e.g., Thaler, 1985; Mazumdar et al., 2005).

Prior research on pricing also shows its use as an impression management tool (Lynn, 1990; Santana and Morwitz, 2011), however early research into PWYW pricing ignored the role of ‘social desirability’ on consumers’ pricing decisions despite its role in the impression management process. In fact, there is evidence that socio-psychological factors such as self-image and social image influence consumers’ PWYW pricing decisions (Gneezy et al., 2012; Gravert, 2014; Kahsay and Samahita, 2015). We argue that self and social image relate with individual and social identity that may vary across time and situations; whereas social desirability is a relatively stable consumer trait that may affect consumers’ pricing decisions in a more enduring manner (Adams et al. 2005). Hence, we include social desirability as an important antecedent in our model.

To summarize, in this paper we introduce a parsimonious model with three antecedents (altruism, price consciousness and social desirability) as drivers of internal reference price, which in turn affects three outcome variables (willingness to pay, future purchase intention and attitude towards the seller) in the PWYW context. We developed specific hypotheses about the relationships among these variables and found support for all of these using a field survey with actual consumers. We discuss the conceptual contribution and managerial implications of our results along with the limitations of our study and directions for future research.

**Conceptual framework and hypotheses**

*Pay-what-you-want (PWYW) pricing*

Pay what you want (PWYW) has emerged as a unique participative pricing scheme in which the buyer has the authority to choose any price to pay for the offered product or service and there is no minimum
price to protect the seller (Kahsay and Samahita, 2015). It is different from conventional pricing situation as it is the buyer (instead of the seller) who exercises maximum control on pricing decision under PWYW. It offers a means of endogenous price discrimination because different consumers pay different prices for the same product even though no exogenous constraints are imposed on them (Schmidt et al., 2014). The sellers are pure price takers and in fact, they have to accept whatever price the buyers decide including a price of zero (Santana and Morwitz, 2011). Moreover, the sellers generally do not provide any external reference pricing cues, hence buyers are often uncertain about the real value of the products and are likely to use other cues (such as social exchange norms) to determine the price (Bettman et al., 1998; Kim et al., 2009; Santana and Morwitz, 2011).

Extant research argues that PWYW pricing strategy helps the seller attract more buyers and serve consumers (e.g., the price conscious) who would be otherwise priced out of the market (Kim et al., 2009). While conventional economic theories suggest that consumers would maximize their utility function by paying nothing; consumers in PWYW context rarely do so, thus behaving in an apparently ‘irrational’ manner (Gravert, 2014; Kim et al., 2009; Santana and Morwitz, 2011). As a result, PWYW pricing not only generates positive profits for the firms but it can also be more profitable than charging a fixed price to all consumers (Chao, Fernandez and Nahata, 2014; Kahsay and Samahita, 2015).

PWYW pricing allows consumers to participate in the price-setting process, thus giving them higher perceived control that in turn offers a greater perception of fairness and satisfaction (Haws and Bearden, 2006). Consumers avoid free riding under PWYW pricing because consumers want to maintain their self-image of being fair (Gneezy et al., 2012). A fair-minded customer is likely to pay a higher price than a selfish customer due to his/her higher valuation of the product or due to the perception of higher level seller’s production costs (Schmidt, Spann and Zeithammer, 2014). Hence, PWYW is an attractive pricing strategy to help discriminate between selfish and fair-minded customers and to undercut competitors that use posted price.
The so-called ‘irrational’ and ‘non-selfish’ behavior in PWYW context has been explained by the concept of social market relationships (Heyman and Ariely, 2004). In money-market relationship, the usage of a value or utility metric governs exchange between two parties, whereas in a social market relationship, consumers act according to social exchange norms and give due considerations to norms of reciprocity and norms of cooperation (Heyman and Ariely, 2004). Under the social-market mechanism, consumers may not be willing to violate social norms as such violation may result in distress and social disapproval (Ariely et al., 2007). In fact, consumers often pay more than their internal reference price because of the reciprocity concern (Machado and Sinha, 2013). In the absence of external pricing cues in general and buyers having maximum control over pricing decisions, PWYW invokes social exchange norms (Elster, 1989; Kim et al., 2009). Reiner and Traxler (2012) also show evidence about positive PWYW payment (observed data) made by consumers over a period of two years. Hence, social forces are likely to influence consumers’ PWYW pricing decisions.

**Antecedents of pay-what-you-want (PWYW) pricing decisions**

Various socio-psychological and economic variables (e.g., altruism, price consciousness, fairness, income and satisfaction) influence consumers’ PWYW pricing decisions (Kim et al., 2009; Santana and Morwitz, 2011). Buyers also rely on memory-based cues such as internal reference price because external pricing cues are often absent in PWYW settings (Kim et al., 2009). Such memory based references can influence consumers pricing decisions (Thaler, 1985; Bell and Latin, 2000; Ranyard et al., 2001). For example, Kim et al., (2009) show that buyers are willing to discharge a higher proportion of their internal reference price to the seller for products offered in a PWYW setting across different product categories like restaurant, movie, and hot beverages.

Kim et al., (2009) found that consumers came into PWYW setting with a prior reference price, such as the amount of money they normally paid for a similar product on their last shopping trip; and the proportion of this internal reference price discharged to the seller were influenced by fairness, altruism, price consciousness, income, satisfaction and reference price. All these variables also affect
consumers’ willingness to pay (WTP), although with varying significance levels under different product scenarios. Specifically, altruism is a significant predictor of WTP for hot beverages but not for the overall model. Price consciousness has a significant impact in their overall and restaurant models, but not for cinema and hot beverages. We argue that these inconsistencies in the impact of all the antecedents may be because some of these variables may have indirect effects on WTP in addition to their direct effects. We also use the evidence about internal reference price (IRP) as an immediate antecedent to pricing outcomes (Thaler, 1985; Mazumdar et al., 2005) to posit that IRP could mediate the influence of various antecedents on the outcome variables in the PWYW context.

**Internal reference price**

Internal reference price (IRP) is an important construct in behavioral price research (Grewal, Monroe and Krishnan, 1998) and it is defined as a price in the buyers' memories that serves as a basis for judging or comparing actual prices (Monroe, 1973; Monroe, Grewal, and Compeau, 1991). It is based on actual, fair, or other price concepts (Garbarino and Slonim, 2003) and can be used as an internal standard to judge and compare offered prices (Winer, 1986; Mazumdar et al., 2005). Consumers often draw on their memory for such past prices in a purchase environment (Mazumdar and Papatla, 2000).

Several studies have explored the stability of IRP and the factors that can alter it (Kalyanaram and Winer, 1995; Lichtenstein, Burton, and Karson, 1991; Urbany et al., 1988; Janiszewski and Lichtenstein, 1999). The predominant view of the current literature is that IRP is relatively malleable and subjective price judgments rely on a comparison of market prices to an internal price standard (Kalyanaram and Winer, 1995; Thaler, 1985). The underlying logic of the adaptation nature of the IRP is sustained by the Adaptation-Level Theory (Helson, 1964). Adaptation-level theory argues that consumers adapt to the signs of the environment and judge the stimuli in relation to an internal standard. Consumers tend to adjust this internal standard (i.e., IRP) in the direction of the given environmental cues or price related cues (Alford and Biswas, 2002; Campo and Yague, 2007).
IRP is shaped by a range of influences from shopping experiences like prices from previous period (Winer, 1986), smoothed average of past prices (Greenleaf, 1995), price of last brand purchased (Hardie et al., 1993), normally paid prices (Kim et al., 2009) and even on the basis of advertised prices (Grewal et al., 1998). IRP is regularly updated by consumers by assimilating new price information, a tenet proposed by psychological perspectives such as assimilation-contrast theory (Sherif and Hovland, 1964). Hence, there is substantial evidence that IRP is quite malleable and adaptive.

In this paper, we focus on how internal reference prices are adapted in PWYW context. Kim et al., (2009) argue that buyers come into PWYW environment with a-priori reference price for the product based on the amount of money it would normally cost or their general price experience with the product. Moreover, the adaptive function of this internal standard may affect the portion of internal reference price that the buyer is willing to discharge under PWYW condition. As mentioned earlier, Kim et al., (2009) predicted a range of psychological and pricing constructs to influence the proportion of buyer’s reference price discharged to the seller. Across different product categories, this proportion ranged from 82% of internal reference price (e.g., for the restaurant) to 86% on average across all product categories. Interestingly, consumers paid higher than they would normally pay for hot beverages, while prices paid for cinemas were significantly lower than the prices paid normally.

In view of the above, consumers seem to adjust their internal reference prices based on their social motivations. In addition, recent outcome-based models of social preference emphasize the role of social variables such as altruism and fairness perceptions to explain voluntary payments (Schmidt et al., 2014). In the next section, we describe the antecedents on IRP and develop specific hypotheses about the influence of three such socio-psychological antecedents in the PWYW context.

**Antecedents of internal reference price (IRP)**

**Altruism:** Altruism can be seen when individuals give more importance and concern to others than themselves based on their feeling towards others (Piliavin and Charng, 1990; Schwartz, 1970). It refers to a selfless behavior directed to benefit another person without anticipation of rewards from any
sources (Macaulay and Berkowitz, 1970). Consumer’s altruistic motives often guide social exchanges, even in the economic context of pricing (McCarville et al., 1993; Andreoni and Miller, 2002; Kim et al., 2009). Altruistic consumers are more likely to demonstrate social responsibility (Eisenberg, 2000) and engage in charity and volunteering (Webb et al., 2000; Koschate-Fischer et al., 2012). Altruism is considered as one of the key facets of the outcome-based theories of social preferences, which argues that people may not be purely self-centered and may give up own resources to help others (Andreoni and Miller, 2002). This implies that in PWYW context, altruism is likely to influence consumers to have a higher level of IRP or may not be price conscious which influence them to act selfless or irrationally in PWYW context. Consumers adapt their IRP by adjusting new price information from the external environment (Sherif and Hovland, 1964).

In an experimental study, McCarville et al. (1993) showed that reference prices can be altered based on the messages that highlight the context in which price information is considered. Specifically, in the altruistic condition, mean reference price reported was significantly higher in comparison to a control group. In absence of an external price cue in PWYW setting, a consumer’s IRP is likely to be influenced by its given context. Instead of behaving rationally by paying less or zero, consumers are likely to have a higher IRP considering it as a part of their charity and/or social responsibility. This is also supported by Andreoni and Miller (2002) who found evidence that altruistic behavior defies economic motives of profit maximization. Hence, we hypothesize as follows:

**H1:** Altruism has a positive effect on internal reference price in a PWYW setting.

**Social Desirability:** Social desirability refers to “a need for social approval and acceptance and the belief that this can be attained by means of culturally acceptable and appropriate behavior” (Marlowe and Crowne, 1961, p. 109). Social desirability is a personality trait (Adams et al., 2005) and contributes to good impression and self-enhancement (Ones et al., 1996). Social forces such as concerns for self-presentation and impression management influence pricing decisions in general as well as in PWYW context (Santana and Morwitz, 2011; Lynn, 1990). Considering that social
desirability is a personality trait, we argue that it plays a key role in determining the prices paid by them under PWYW context. The role of social desirability in PWYW context can be explained by social market mechanism (Heyman and Ariely, 2004) and intention based theories of reciprocity (Dufwenberg and Kirchsteiger, 2004).

Consumers’ motivation to behave in socially appropriate manner may positively influence their internal reference prices. The demand of paying a price without explicit pricing cues may highlight the perceived importance of projecting an image that one behaves in a socially approved manner. Social desirability, in this sense might create a pressure to present oneself in a socially appropriate manner and ignoring social norms is associated with emotional costs and social disapproval, which may outweigh the economic rewards of paying nothing or paying a low price. In contrast, acting in line with the social norms and gaining social approval may be a strong incentive to motivate consumers to adapt their internal reference prices in PWYW environment (Berkowitz, 1972; Ariely et al., 2007; Santana and Morwitz, 2011). Mak et al. (2015) also show that social interaction such as communication among the consumers before the payment contributes to sustain PWYW provision by establishing a norm and fostering social influence among consumers.

In addition, intention-based theories of reciprocity state that people reciprocate to kind intentions that are expressed by kind actions (Dufwenberg and Kirchsteiger, 2004). In the similar vein, if products offered under PWYW setting, it connotes a good intention of the seller to the buyer and thus increases the value of the product to the buyer resulting in more willingness of the buyer to reciprocate by paying a higher price as s/he considers it as an act of kindness (Schmidt, Spann and Zeithammer, 2014). Hence, we hypothesize as follows:

**H2:** Social desirability has a positive effect on internal reference price in a PWYW setting.

**Price Consciousness:** Consumers who display higher sensitivity to pay lower prices and view price in its negative role are referred to as ‘price conscious’. Price consciousness is the degree to which a consumer focuses exclusively on paying low price. In the context of shopping, such consumers may
purchase products on sale rather than paying full regular prices (Lichtenstein et al., 1993). The perception of price in its negative role is likely to increase consumers’ search for lower price as he or she may be intrinsically motivated to do so (Alford and Biswas, 2002). As price conscious consumers are more likely to make promotional purchases (e.g., on sale), they are also more likely to have a lower IRP (Mazumdar et al., 2005). PWYW pricing has unique implications for price conscious consumers.

First, the setting may signal low price guarantees to price sensitive consumers much like an everyday low price (EDLP) store. Research shows that IRPs for brands sold in EDLP are lower than those of brands sold in hi-lo store (Shankar and Bolton, 2004). Second, Bell and Lattin (2000) argue that price sensitive consumers are more likely to have a lower IRP because of their intrinsic motivation to pay low prices for products and services purchased by them, which in turn seems to be guided by their sensitivity to loss aversion. Recent research also found evidence that price consciousness negatively moderates the link between IRP and willingness to pay (Roy, 2015). Therefore, we posit that consumers’ inherent motivation to pay lower prices will cause them to adjust their internal reference prices downwards under a PWYW setting, as follows:

H3: Price consciousness has a negative effect on internal reference price in a PWYW setting.

Outcomes of internal reference price (IRP)

Consumers’ internal reference prices play a critical role because of its effect on consumer judgment and decision making process. For example, consumers’ internal reference price is an immediate antecedent to ‘Willingness to Pay’ in diverse settings (Thaler, 1985; Ranyard et al., 2001). Hence, it may be argued that PWYW context may also see a similar relationship between reference price and WTP wherein a low price setting like PWYW may encourage positive attitudes towards the seller, driven by better perception of value from the PWYW transaction. Low price guarantees from retailers result in higher value perception of consumers (Biswas et al., 2002), whereas the higher perceived control on pricing decisions in PWYW pricing may enhance consumer’s perception of fairness and satisfaction with the transaction (Haws and Bearden, 2006). In fact, consumers gravitate more towards
private level brands as they are perceived to be more fairly priced than their more expensive national counterparts (Sinha and Batra, 1999).

PWYW pricing allows consumers to compare the opportunity of paying any price (or possibly a low price) with their memory based standards, leading to the perception of a better bargain for the product. A typical buyer perceives more value from the transaction if he or she is able to get a better deal by comparing actual prices with the memory based internal reference price (Grewal et al., 1998). As a result, PWYW setting will motivate a favorable consumer attitude towards the seller and have a positive impact on consumers’ behavior because perceived value from a transaction is shown to influence willingness to buy and intentions to search (Grewal et al., 1998; Biswas et al., 2002).

**Mediating role of IRP**

The effects of IRP have been explained by different theoretical arguments such as adaptation-level theory (Helson, 1964) and anchoring-adjustment theory (Tversky and Kahneman, 1971). These theories agree that IRP is adjustable; and all adjustments are relative and depend on how a person evaluate an object, which again depends on what he or she uses as a basis for comparison (Howard and Kerin, 2006). Such malleable nature of IRP suggests that it can be influenced by different factors, which may include the socio-psychological forces in PWYW context. However, others question the effects of IRP and argue that the effects of reference price may be confounded by other variables (Chang, Siddarth and Weinberg, 1999; Krishna, Currim and Shoemaker, 1991). Assimilation-Contrast theory suggests that a reference price affects consumer perceptions such that consumers’ would show a favorable response if the product’s price matches with the consumers’ internal price standards; on the other hand they reject it if the price is judged to be outside the range of expected prices (Lichtenstein and Bearden, 1989; Monroe, 2003; Hardesty and Suter, 2005). This implies that IRP may moderate the relationship between the influencing factors and the outcome variables of interest.

We argue that IRP will mediate the relationship between the influencing factors and outcome variables based on the following arguments. Consumers rely on internal reference prices to determine
whether a price is fair or acceptable (Winer, 1986). Guided by the Adaptation-Level theory, Grewal et al. (1998) argued that consumers’ IRP adapt the stimuli presented in the environment. Consumers either adjust their internal reference price or accept the given price and thus make judgments about the product's value. They (Grewal et al., 1998) also found empirical evidence that environmental cues influence IRP, which ultimately influence perceived value of the product. Urbany, Bearden, and Weilbaker (1988) also found that advertised prices serve as anchors and shift internal reference prices in the desired direction. In addition, IRP is found to be an immediate antecedent to ‘Willingness to Pay’ in diverse settings (Thaler, 1985; Ranyard et al., 2001).

Based on the above, it may be argued that a similar relationship between reference price and WTP may also prevail in PWYW context wherein a low price setting like PWYW may encourage positive attitudes towards the seller, driven by better perception of value from the PWYW transaction. Low price guarantees from retailers result in higher value perception of consumers (Biswas et al., 2002), whereas the higher perceived control on pricing decisions in PWYW pricing may enhance consumer’s perception of fairness and satisfaction with the transaction (Haws and Bearden, 2006). Based on this reasoning, we hypothesize as follows:

**H4:** IRP mediates the influence of altruism on (a) willingness to pay, (b) future purchase intention, and (c) attitude towards the seller in a PWYW setting.

**H5:** IRP mediates the effect of social desirability on (a) willingness to pay, (b) future purchase intention, and (c) attitude towards the seller in a PWYW setting.

**H6:** IRP mediates the relationship of price consciousness with (a) willingness to pay, (b) future purchase intention, and (c) attitude towards the seller, in a PWYW setting.

Figure 1 summarizes all the hypotheses.

< Insert Figure 1 about here >
Method

We used a field survey to collect data from 272 undergraduate students with a structured questionnaire (average age = 21 years and 57% male). Student sample is appropriate for this research because they are frequent customers for food and beverage outlets and are frequently used in such research settings (e.g., Roy, 2015; Machado and Sinha, 2013). For example, in a similar study, Roy (2015) shows that demographic characteristics of student sample do not affect consumers’ willingness to pay. Further, despite criticism of student samples (James and Sonner, 2001; Sears, 1986); their use does not generate different results for purchase intentions than non-student samples (Ok, Shanklin and Back, 2008). Our sample also represents the urban consumers who frequently dine out as a part of lifestyle choice.

The questionnaire started with a description of a fictitious restaurant that offered good food in a nice ambience without charging customers a fixed price and the participants learned that they can dine in at this restaurant and pay any amount of money for the food they consume. In the description, no particular ethnicity to the restaurant was attached and the restaurant. Respondents imagined dining at the restaurant and were subsequently satisfied with the food, ambience, and service. Following this, they reported one of the key dependent variables in the study, the amount of money that they would be willing to pay for their food. Next, other measures such as price consciousness, reference price, social desirability, future intention, and altruism were collected. Finally, the participants filled in their demographics like gender, age, monthly income and were thanked for participating in the survey.

All the scale items are adopted from existing literature. Altruism was measured with a five-item scale (e.g., “I love to help others”, “I have a good word for everyone,” “I am concerned about others”, “I make people feel welcome”, “I anticipate the needs of others”) taken from Kim et al (2009). Price consciousness was measured with a three-item scale (e.g., “I usually purchase items on sale only”, “I usually purchase the cheapest item”, “Before I buy a product, I often check the prices of different retailers to obtain the best benefit”) adopted from Donthu and Gilliland (1996). The short form of social desirability scale Hays et al. (1989) was used with items like “I am always courteous
even to people who are disagreeable”, “There have been occasions when I took advantage of someone, “I sometimes try to get even rather than forgive and forget”; “I sometimes feel resentful when I don’t get my way” and “No matter who I’m talking to, I’m a good listener” to measure this construct.

Attitude towards the restaurant was measured with a seven-point semantic differential scale with seven opposite adjective pairs (e.g., delightful/not delightful, not fun/fun, dull/exciting, not interesting/interesting, etc.), adapted from the literature (Morschett, Swoboda and Foscht, 2005). In line with literature in the field (Kim et al., 2009, Roy, 2015), internal reference price was measured as the prices normally paid for a similar or comparable product or services on consumer’s last shopping trip. Willingness to pay was measured as the amount of money (in Australian dollars) participants were likely to pay after dining at the fictitious restaurant, which is consistent with Roy (2015). Future purchase intention was measured with three items “I will be a regular customer at the ethnic restaurant in future. “I will say positive things about the ethnic restaurant to others. “I will encourage friends and relatives to dine in this restaurant” adapted from Alford and Biswas (2002). All scales used a five-point Likert scale (1 = strongly disagree and 5 = strongly agree).

The scale items used in this study were assessed for their unidimensionality, reliability, and validity (Anderson and Gerbing, 1982; Veloutsou, 2007). Exploratory factor analysis (EFA) was used to confirm that items actually loaded on the original constructs (Daunt and Harris, 2011). The EFA results demonstrated that each item loaded highly on the respective construct. Following Gerbing and Anderson (1988), a two-step approach to structural equation modeling was adopted, testing a measurement model to assess the convergent and discriminant validity prior to estimating the path relationship from a structural model. Consequently, a confirmatory factors analysis (using AMOS version 22.0) was conducted to assess the validity of the multi-item scales. The convergent validity of the constructs were tested by checking the substantial factor loading of all items (Hair et al., 1995; Raimondo et al., 2008) which significantly (at 0.01 level) load onto the expected latent construct (Table 1). Further, an AVE (average variance extracted) greater than 0.50 for each construct also supports convergent validity of the constructs of interest (Fornell and Larcker, 1981). Correlation
values between the constructs – Altruism, Social Desirability, Price Consciousness, and Attitude are within the acceptable limit that supported discriminant validity of the constructs (Kline, 2005).

The lowest value of Cronbach’s alpha and construct reliability are 0.73 and 0.82 (for future intention), which suggested adequate internal consistency of the scale items used in the study. Average variance extracted (AVE) for each construct exceeds the minimum cutoff point of 0.50 (Fornell and Larcker, 1981; Hair et al., 2010). The square root of AVE of each construct is also greater than the absolute value of its standardized correlation with all the other constructs (Table 2), which further supports the convergent and discriminant validity (Fornell and Larcker, 1981; Bagozzi and Yi, 1988).

In addition, the goodness of fit measures for the measurement model show a good fit ($\chi^2 = 376.85$, $df = 252$, $\chi^2/df = 1.49$, NFI = 0.90, CFI = 0.97, RMSEA = 0.043, SRMR = 0.048), hence all the constructs in the model are different from each other (Garson, 2011).

This study employed self-report measures for both independent and dependent variables from the same source in a single survey. Hence the study may suffer from common method bias (Podsakoff et al., 2003). In order to minimize the effects of common method bias, following measures were adopted. First, the scales used in the study were based on different response format such as Likert scale and semantic differential scale which has helped reducing the method bias due to commonalities in scale endpoints and anchoring effects (Podsakoff et al., 2003; Sharma, 2011). Second, two out of the three outcome variables (i.e., WTP and reference price) are not attitudinal in nature. Unlike the independent latent constructs, these outcome variables are measured using actual behavioral data instead of attitudinal data using scale items. This also enabled the researchers to control for possible common method bias through psychological separation of measurement (Podsakoff et al., 2003). Third, the cover letter of the questionnaire assured respondents’ anonymity and requested for their honest responses, which also reduced respondents’ evaluation apprehension and thus controlled
possible sources of common method bias (Podsakoff et al., 2003). Although it is difficult to identify
the exact source(s) of the method bias, however these procedural remedies help us to minimize the
common method bias in this study (Sharma, 2011; Ramaseshan et al., 2013). In addition based on
Harman’s single-factor test (Podsakoff et al., 2003), the unrotated factor solution was conducted for all
the items used in the study and it generated more than a single-factor, which suggests that common
method bias is not a problem in this study.

Results

All the hypotheses were tested using AMOS for the structural path relationships shown in the Figure 1.
The fit indices of the structural model reveal acceptable fit with the data ($\chi^2 = 460.89; df = 263; \chi^2 / df$
= 1.75; RMSEA = .053; CFI = .95; TLI = .94; NFI = .89). All the corresponding coefficients, critical
ratios, and p-values are shown in the Table 3 in Appendix.

Table 3 shows that all the hypothesized relationships are supported with $p$ – value less than
0.05 for all the six hypotheses. The standardized $\beta$ coefficient of the links of altruism, social
desirability and price consciousness with IRP are 0.20, 0.15, and -0.25 respectively. Therefore,
altruism and social desirability have significant positive influence on IRP whereas price consciousness
has significant negative relationship with IRP. Therefore, the first three hypotheses (H1 to H3) are
supported. Moreover, the standardized $\beta$ coefficient of the links from IRP to WTP, future purchase
intention and attitude are 0.74, 0.21, and 0.29 respectively. Hence, reference price has significant
positive impact on all the three dependent variables – WTP, future intention, and attitude.

Mediating role of internal reference price (IRP)

We examined the mediating role of reference price by following the procedure suggested by
Shrout and Bolger (2002), which has been used by other marketing scholars (for example see Eisend,
2008). Specifically, we compared the unconstrained structural model with the constrained model
where the coefficient of the mediating path was set to zero. Thus we ran a total of nine constrained models (constraining each mediating path in a separate model) and compared each of them with the unconstraint model separately. The results are shown in Table 4. Each of the nine constrained models revealed a worse fit than the unconstrained model; and, the Chi-square differences were found to be significant at 5% level of significance. Hence all the mediating hypotheses (H4-H6) are also supported, which suggests the robustness of our model.

Discussion

The results of the current study provide insights about the direct and indirect effects of three key socio-psychological antecedents on consumers’ internal reference prices and important outcome variables. Our results confirm that in absence of external pricing cues, internal reference price becomes the most important guide to influence consumers’ pricing decision under the PWYW setting. A positive and significant relationship between internal reference price and its social antecedents such as altruism and social desirability supports the idea that PWYW pricing is guided by social-market exchange norms. Besides, results further provide evidence that perception of a low price guarantee under PWYW condition may lower the internal reference prices, especially for price conscious customers.

This research shows that internal reference price is malleable and once it is shaped in the context of PWYW, it further influences all key outcome variables like WTP, attitude, and future intention to do business, albeit in a significantly positive way. The results show that the antecedent variables of this study do not affect WTP, attitude and future intention directly, rather through the mediating effects of internal reference price. This supports extant literature that shows internal reference price (e.g., Thaler, 1985) as immediate antecedent to WTP even in the PWYW context. This further offers an indication to explain Kim et al. (2009)’s finding that why altruism did not have a direct effect on WTP in some of their product specific models.
Conclusion

Conceptual Contributions

This study explores the currently under-researched topic of PWYW, an innovative participative pricing strategy and offers useful insights into its underlying socio-psychological mechanism. It offers important contributions to the marketing literature. Firstly, it extends the theoretical domain in PWYW research by proposing a parsimonious framework that helps scholars to understand how key social and pricing constructs influence consumer decisions in PWYW context. The findings show that consumers’ selfless characteristics such as altruism and social motivations such as desire to behave in a socially appropriate manner influence their IRP in PWYW setting positively whereas consumers’ inherent motivation to look for lower prices influences it negatively. Our finding regarding the effects of social desirability on IRP en-route to WTP and attitude towards a PWYW seller is grounded in intention based theories of social reciprocity and contributes to the extant reference price literature. This contribution provides an innovative insight by showing how PWYW setting creates a social demand of projecting a desirable image, based on which consumers adapt their internal reference levels which further guides consumers’ pricing and other behavioral decisions.

In addition, the findings that IRP mediates the relationships between altruism and WTP explain the inconsistencies found in the direct effect of some of the key variables (e.g., altruism) of Kim et al.’s study on WTP to some extent. The mediation results further contribute to existing reference price literature by showing evidence that IRP not only mediates the relationship between antecedent variables and WTP, but also between these variables and outcomes like attitude towards the seller and decision to patronize the business in future. For example, while past PWYW research pointed out selfless behavior in PWYW context by focusing on consumers’ self and social image (Gneezy et al., 2012; Gravert, 2014; Kahsay and Samahita, 2015), this research extends it further by providing empirical evidence on how socio-psychological variables influence pricing and behavioral decisions through consumers’ internal reference price.
Managerial Implications

The findings of the study also have key managerial implications. The results show that social motivation and price consciousness can influence prices offered under PWYW by shaping internal reference price and consumers’ attitude and behavioral intention. Our findings suggest that the PWYW sellers should target those customers who are altruistic in nature and care about their social impression. Considering that the concept that PWYW pricing is based on the notion of fair pricing assuming that people help those who are kind to them and punish those who are unkind (Andreoni and Miller, 2002; Rabin, 1993), it may create a positive image for the business provider by allowing consumers’ a fair situation to set their own prices (Haws and Bearden, 2006). This positive image may further encourage patronizing the product or service and promote future purchase intention, which is supported by the findings of this study. This may be considered as one of the key advantages of this pricing model and managers from certain industries such as restaurants, non-profit firms e.g. museums, etc. may consider adopting this innovative pricing strategy. Therefore, while consumers are increasingly showing lower confidence in pricing strategies like “hi-lo” thus undermining retailer credibility (Hoch et al., 1994); understanding and implementing PWYW pricing may offer an alternate opportunity for retailers to create a positive price image and serve as a key differentiator in the market place (Kim et al., 2009).

As evident from this study, firms may adopt PWYW pricing to appeal to selfless side of the consumers. In fact, Panera in US runs cafes where consumers can pay for their share of purchases in donation boxes. Further, for people who cannot pay, the company encourages them to join the café and offer their service to the community (Schmidt et al., 2014). Similarly, Roy (2015) suggests that established brand like MacDonald’s can adopt limited time PWYW strategy instead of selling EDLP snacks, with contributions partly donated to children cancer foundation. Alternatively, firms offering PWYW strategy can tie up with charitable institutions to reach out to the altruistic consumers. Companies may even start considering their own charitable clubs and appoint volunteers, in a way similar to Panera bread, which encourages voluntary service in their community cafes.
Firms adopting PWYW pricing strategy may be better off targeting altruistic consumers as this pricing mechanism can be strategically adopted as an innovative alternative of corporate philanthropy. Firms often donate substantial resources under the umbrella of corporate social responsibility or corporate philanthropy program. Such donation scheme can be innovatively replaced by engaging the customers in determining their own contributions which will allow them to directly express their social welfare concern through purchasing of the goods or service offered under PWYW settings. Based on our findings managers also need to be aware of the fact that price conscious consumers could be naturally drawn to the PWYW setting. Further, the setting may encourage these consumers to pay lower prices, and ignore the selfless and social view of the PWYW seller. In addition, our findings show that this segment may form an attitude towards the seller and decide on future patronage, based on their pricing decisions in the PWYW setting. This may result in negative return and unsustainable business proposition for the PWYW seller if the business attracts predominantly such consumers.

By giving opportunity to consumers to self-determine prices, PWYW strategy may further increase consumers’ confidence in sellers’ credibility. This strategy if successfully implemented may create a unique differentiation in the retail market. The authors agree with Kim et al.’s (2009) research that products offered with high fixed and low variable cost may be more appropriate for this strategy and restaurant business may provide one such opportunity. In fact, Annalakshmi described at the beginning of this research that it adopted a business model with low costs. The restaurant engages a simple menu, appoints chefs and waiters who are volunteers and has linkages with charitable organizations. The restaurant offers part of their revenue towards humanitarian causes thereby creating a positive image on consumers’ minds. Thus PWYW can also be considered as promotion tool to fully penetrate a market without giving away the product for free (Schmidt et al., 2014).

Limitations and Future Research

This study has a few limitations. First, our findings are based on a single field-survey that may limit their generalizability. Future research may use experimental design to manipulate the independent
variables used in our study in order to delineate mental mechanisms underlining this innovative pricing mechanism in a laboratory setting. Similarly, future work may consider the role of other variables such as existence of a posted price in PWYW context, which is likely to influence consumers’ pricing decisions in a different manner as compared to our findings (Schmidt et al., 2014; Kim et al., 2014). It may also be worthwhile to explore consumers’ background such as prior shopping experiences, or the process through which they form IRP, that may influence their willingness to pay. For example, IRP based on price of last brand purchased (Hardie et al., 1993) could be more salient in consumers’ memories and have a significantly different impact compared to IRP based on normally paid prices (Kim et al., 2009).

Consumers in PWYW context may also behave differently based on whether they are paying in public or private setting. Past research argued that the actual payment decision made by consumers often depends on whether the payment is made in private or in presence of others (Gneezy et al., 2012; Machado and Sinha, 2013). Hence, it would be worth exploring the role of public versus private settings of payment on actual payment made by the consumers in PWYW context. Similarly, quality of product and services offered under PWYW can also be manipulated to study the effect of product-quality relationship on consumer offer prices under PWYW. Finally, future research may replicate this study and examine the model with other categories of products, services and consumers.

References


Figure 1 – Conceptual framework

Altruism

Social Desirability

Price Consciousness

Internal Reference Price

Willingness To Pay

Attitude

Future Intention

H1

H2

H3

H4

H5

H6
<table>
<thead>
<tr>
<th>Scale Items</th>
<th>Factor Loading</th>
<th>Mean</th>
<th>SD</th>
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</thead>
<tbody>
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<td></td>
<td></td>
</tr>
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<td>Al1</td>
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<td>0.90</td>
</tr>
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<td>Al3</td>
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</tr>
<tr>
<td>Al4</td>
<td>0.75</td>
<td>3.08</td>
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<tr>
<td>Al5</td>
<td>0.65</td>
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<td><strong>Social Desirability</strong></td>
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</tr>
<tr>
<td>SD1</td>
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<td>0.90</td>
</tr>
<tr>
<td>SD2</td>
<td>0.61</td>
<td>2.72</td>
<td>0.85</td>
</tr>
<tr>
<td>SD3</td>
<td>0.76</td>
<td>2.71</td>
<td>0.81</td>
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<tr>
<td>SD4</td>
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<td>SD5</td>
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</tr>
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<td><strong>Price Consciousness</strong></td>
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<td>PC1</td>
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<td>PC2</td>
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<td>PC3</td>
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<tr>
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<td>HA7</td>
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<td></td>
<td></td>
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<tr>
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Table 2: Correlations and psychometric properties

<table>
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<tr>
<th></th>
<th>Alpha</th>
<th>CR</th>
<th>AVE</th>
<th>ALT</th>
<th>PCO</th>
<th>SDR</th>
<th>ATT</th>
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<td>Price Consciousness</td>
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<tr>
<td>Social Desirability</td>
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<td>.16</td>
<td>.15</td>
<td>-</td>
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<td>Attitude</td>
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<td>.95</td>
<td>.75</td>
<td>.14</td>
<td>.01</td>
<td>-.05</td>
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<td>Willingness to Pay</td>
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<td>-.15</td>
<td>.06</td>
<td>.28</td>
<td>.03</td>
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Alpha = Cronbach’s alpha; CR = Composite Reliability; AVE = Average Variance Extracted
ALT = Altruism; IRP = Internal reference price; PCO = Price consciousness; FI = Future intention;
SDR = Social Desirability; WTP = Willingness to pay
Table 3: Standardized path coefficients, t-value, and \( p \)-value

<table>
<thead>
<tr>
<th>Hypotheses and Path</th>
<th>B - value</th>
<th>t-value</th>
<th>( p )-value</th>
<th>( R^2 )</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALT =&gt; IRP</td>
<td>0.20</td>
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<td>SDR =&gt; IRP</td>
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<td>2.18</td>
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<td>0.004</td>
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<tr>
<td>IRP =&gt; WTP</td>
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<td>18.33</td>
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<td>IRP =&gt; FI</td>
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<td>0.003</td>
<td>0.04</td>
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<td>4.72</td>
<td>0.001</td>
<td>0.09</td>
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</table>

ALT = Altruism; IRP = Internal reference price; PCO = Price consciousness; FI = Future intention; SDR = Social Desirability; WTP = Willingness to pay
## Table 4: Mediation results

<table>
<thead>
<tr>
<th>Models and Paths</th>
<th>Model Fit Indices</th>
<th>Chi-Square Difference ($Δχ^2$)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unconstrained Model</strong></td>
<td>$χ^2 = 460.89; df = 263; χ^2 / df = 1.75$; RMSEA = .053; CFI = .95; NFI = .89; TLI = .94</td>
<td></td>
</tr>
<tr>
<td><strong>Constrained paths:</strong> ALT =&gt; IRP =&gt; WTP</td>
<td>$χ^2 = 685.03; df = 265; χ^2 / df = 2.58$; RMSEA = .076; CFI = .88; NFI = .82; TLI = .86</td>
<td>$Δχ^2 = 224.14; Δdf = 2; p &lt; 0.05$; Mediation supported</td>
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<tr>
<td><strong>Constrained paths:</strong> ALT =&gt; IRP =&gt; FI</td>
<td>$χ^2 = 475.40; df = 265; χ^2 / df = 1.79$; RMSEA = .054; CFI = .94; NFI = .87; TLI = .93</td>
<td>$Δχ^2 = 14.50; Δdf = 2; p &lt; 0.05$; Mediation supported</td>
</tr>
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<td><strong>Constrained paths:</strong> ALT =&gt; IRP =&gt; Attitude</td>
<td>$χ^2 = 489.20; df = 265; χ^2 / df = 1.84$; RMSEA = .056; CFI = .94; NFI = .87; TLI = .93</td>
<td>$Δχ^2 = 28.31; Δdf = 2; p &lt; 0.05$; Mediation supported</td>
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<tr>
<td><strong>Constrained paths:</strong> PCO =&gt; IRP =&gt; WTP</td>
<td>$χ^2 = 688.004; df = 265; χ^2 / df = 2.59$; RMSEA = .07; CFI = .88; NFI = .82; TLI = .86</td>
<td>$Δχ^2 = 227.11; Δdf = 2; p &lt; 0.05$; Mediation supported</td>
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<td><strong>Constrained paths:</strong> PCO =&gt; IRP =&gt; FI</td>
<td>$χ^2 = 478.37; df = 265; χ^2 / df = 1.79$; RMSEA = .055; CFI = .94; NFI = .87; TLI = .93</td>
<td>$Δχ^2 = 17.48; Δdf = 2; p &lt; 0.05$; Mediation supported</td>
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<td><strong>Constrained paths:</strong> PCO =&gt; IRP =&gt; Attitude</td>
<td>$χ^2 = 492.17; df = 265; χ^2 / df = 1.86$; RMSEA = .056; CFI = .93; NFI = .87; TLI = .93</td>
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<td>$χ^2 = 684.26; df = 265; χ^2 / df = 2.58$; RMSEA = .076; CFI = .88; NFI = .82; TLI = .87</td>
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<td><strong>Constrained paths:</strong> SDR =&gt; IRP =&gt; FI</td>
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<tr>
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<td>$χ^2 = 488.43; df = 265; χ^2 / df = 1.84$; RMSEA = .056; CFI = .94; NFI = .87; TLI = .93</td>
<td>$Δχ^2 = 27.54; Δdf = 2; p &lt; 0.05$; Mediation supported</td>
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</tbody>
</table>

ALT = Altruism; IRP = Internal reference price; PCO = Price consciousness; FI = Future intention; SDR = Social Desirability; WTP = Willingness to pay