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Pay-What-You-Want pricing schemes: A self-image perspective

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ABSTRACT

Pay-What-You-Want (PWYW) pricing schemes are becoming increasingly popular. We develop a model incorporating self-image into the buyer's utility function and introduce heterogeneity in consumption utility and image-sensitivity, generating different purchase decisions and optimal prices across individuals. When a good's fixed price is lower than a threshold fair value, PWYW can lead to a lower utility. This may result in a lower purchase rate and higher average price, accounting for previously unexplained field experimental evidence. An increase in the threshold value decreases the buyer's utility and may further lower the purchase rate, resulting in a further increase in purchase price.

1. Introduction

"Pay-What-You-Want" (PWYW) is a recently emerging pricing scheme in which a good is up for sale and the buyer, should he decide to buy, chooses the price to pay for it.[1] A famous example, which illustrates its attractiveness to a seller, is the release of the band Radiohead's album "In Rainbows" in 2007, which at the time was highly anticipated. Fans were able to download the album from the band's website for any price they chose, including zero. Standard economic theory predicts that the optimal financial decision for the buyer would be to pay nothing and get the album for free. However, hundreds of thousands of fans chose to pay a positive amount for the album, and the band in fact profited from this pricing format, making more money than from digital downloads of all their other studio albums combined.[2] Is this success merely due to the publicity surrounding the album's release, or is there something more beyond the standard economic theory?

Pure PWYW, which is the focus of this paper, has no minimum price to protect the seller.[3] Despite this, its adoption by various sellers in the food industry, such as 'Wiener Deewan' in Vienna and 'Lentil as Anything' in Melbourne,

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1 "Pay-What-You-Want" is also known in the literature as "Pay-As-You-Wish", "Pay-As-You-Feel" and "Pay-As-You-Like".

2 See http://archive.wired.com/entertainment/music/magazine/16-01/ff_yorke?currentPage=all. Accessed on 14-08-2014.

3 A variant of PWYW with a minimum price is known as "Name-Your-Own-Price" (NYOP). See Kim et al. (2009) for a detailed explanation of the different participative pricing schemes.

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shows its potential for success. On the other hand, there are also PWYW ventures which have not been as successful (for example, 'Terra Bite Lounge' in Seattle which returned to a fixed-price scheme after adopting PWYW for a period of time). Although formal PWYW situations have only recently emerged and the pricing scheme is not yet widespread, the same principle of choosing what to pay is in fact found in another common phenomenon that is tipping. In many countries, it is a social norm for good restaurant (or other) services to be rewarded with a good tip from the customer. Although in this case the service has already been provided, just like PWYW the customer is under no obligation to pay an amount above zero. Despite this, the level of the tip is often above this minimum.

Besides the above real life examples, several field experiments (see, for instance, Gneezy et al., 2012; Kim et al., 2009) also support the theory that individual behaviour in PWYW situations does indeed deviate from what is normally predicted by standard economic theory. These findings indicate that despite the option to "buy" the good for free, fewer individuals decide to purchase the good and those who do tend to pay a higher price in comparison with the typical fixed-price scheme. In particular, when the purchase of the good involves a pro-social element such as a donation to charity, even fewer people buy, at an even higher price. These decisions contrast with standard predictions regarding optimal consumer financial decision-making.

Our paper is the first to present a model explaining the experimental evidence of lower purchase rate and higher average price in PWYW compared to a fixed-price scheme. We do this by introducing a self-image component in modelling individual behaviour when presented with a PWYW opportunity. As proposed by Gneezy et al. (2012), the purchase decision in PWYW is a way of signalling to the self that the individual is unselfish towards the seller, and, in the case of PWYW with a donation, that he cares about social responsibility (Gneezy et al., 2010).

Self-image, as a motivation for over-participation in activities (including but not limited to pro-social activities), is not a new concept. For example, individuals have been known to over-pay for fair-trade/green products (Shaw et al., 2000; Nyborg et al., 2006; Doran, 2009), engage in over-education (Gallice, 2009) and over-participate in voluntary activities (Brekke et al., 2003; Samahita, 2013). In a PWYW situation, the individual partakes in a voluntary pricing scheme which is atypical of the traditional market mechanism. Sellers offer buyers the possibility to choose what to pay, and many consumers reciprocate by paying a positive amount. A buyer who merely desires to be fair towards the seller would stop at paying the good's fair price, but the fact that some individuals over-pay relative to the good's fair value suggests that PWYW is also seen as an opportunity for image consumption.

In our model, we investigate the individual's purchase decision and his utility maximizing choice of contribution level. Individuals are heterogeneous in their consumption utility and image-sensitivity, resulting in different purchase decisions at varying prices. Our findings show that when a good is sold at a fixed price that is lower than the fair value threshold, a lower purchase rate can arise under PWYW. We also investigate the effect of an increase in this fair value, which is predicted to result in an even lower purchase rate and an even higher average price under certain conditions. Finally, we present a simulation study using a quadratic self-image function which supports our results and shows the potential for PWYW to be welfare-improving.

The rest of this paper is organized as follows: Section 2 provides a review of the PWYW literature. Section 3 presents the model and its predictions, which are further explored in the simulation study in Section 4. The findings are discussed in Section 5, and Section 6 concludes.

2. Literature review

PWYW can be seen as a class of participatory pricing mechanisms where a buyer has full control over the price setting (Kim et al., 2009). Besides the famous Radiohead example, this relatively new pricing strategy has been implemented in many areas including music, restaurants, accommodation, and soccer clubs (Mantzaris, 2008; Isaac et al., 2010; Riener and Traxler, 2012; Gautier and Klaauw, 2012). To investigate the reasons behind the apparent success of these PWYW examples, recent studies have explored empirical data collected from PWYW sellers as well as results from PWYW experiments under various conditions. The findings of these papers are reported in the top half of Table 1. In summary, a PWYW pricing scheme does attract non-zero payments. While as expected some PWYW consumers under-pay, there are also situations in which the average price is in fact higher compared to other fixed-price schemes, and the purchase rate lower. In some cases PWYW results in an increase in the seller's revenues. It is this heterogeneity in findings that we seek to explain.

While PWYW contribution could be strategically motivated by a selfish desire to keep the seller in the market (Schmidt et al., forthcoming; Mak et al., 2015), this cannot be the case in one-shot interactions such as the temporary settings of Gneezy et al. (2010, 2012) and Kim et al. (2009). The existing theoretical literature on PWYW has also appealed to consumers' social preferences to enable PWYW to survive in the market.[4] These are presented in the bottom half of Table 1. Chen et al. (2009), for example, show that if a sufficient number of consumers are fair-minded, PWYW can be more profitable than fixed-pricing even with the presence of free-riders. Alternatively, a consumer could be motivated by a social cost for free-riding (Fernandez and Nahata, 2009). Isaac et al. (2010) incorporate social norms for contribution levels, consistent with the survey results in Regner (forthcoming) who furthermore found consumers motivated by reciprocity and guilt. More recently, Schmidt et al. (forthcoming) conducted a laboratory experiment to disentangle the various social preferences of buyers and found that outcome-based social preferences are the main reasons driving consumer contribution under PWYW.

While such explanations can account for the positive prices paid and the opt-out behaviour of some consumers

[4] See Rabin (1993) for a detailed discussion of incorporating a pro-social preference for fairness into the model.