ANTECEDENTS OF THE STRATEGIC PRICE METRIC DECISION: AN EXPLORATORY STUDY

Accepted for presentation at the AMA Winter Educator's Conference 2009
Track: Marketing Strategy

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Version June 30, 2008

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ABSTRACT

When General Electric entered the jet engine market, its price metric decision (PMD) to charge "power by the hour" instead of selling the jet engine to the customer represented a major strategic shift in the industry. Similarly, the DVD rental company Netflix changed the rules of the movie rental game by charging a monthly subscription and eliminating late fees. Despite such evidence of the criticality of the PMD as an important strategic choice for companies, extant literature does not provide a comprehensive framework to support the decision. To address this gap, this exploratory study in the freelance services market identifies basic alternatives for the PMD and proposes a set of antecedents. The article concludes with preliminary managerial recommendations and suggestions for further research.

INTRODUCTION

Traditional markets consist of exchanges of a tangible good for a monetary equivalent: The buyer pays the seller for the units of goods delivered, and the price metric is a unit of the goods exchanged (e.g., a pound of potatoes, a chair, a pair of shoes). However, in many modern markets, tangible goods no longer constitute the centerpiece of exchange. This shift in the goods exchanged calls for new price metrics, defined as the units to which price gets applied (Nagle and Hogan 2006, p. 56). In the hotel industry, for example, the metric is often room rates per night, whereas universities charge for credit hours, doctors for medical treatments, and Google bills advertisers for the number of clicks by users on its online advertisements (the Appendix provides more price metric examples). A well-cited price metric decision (PMD) with significant implications for its industry was General Electric's successful entry into the jet engine market. Instead of charging for the jet engine (a large, fixed-cost investment for the customer), GE's "power by the hour" program bills customers whenever the sold jet engine is in the air (a smaller, variable cost).

The managerial relevance of the PMD stems from the direct impact of PMD on revenues, because it attempts to capture the value created with customers, and on costs, because it influences customer demand (e.g., free computer support is in higher demand than support for which users must pay). The music industry serves as a good illustration of the importance of PMD: In recent years, revenues from selling music have declined even as demand for music has increased. Prior to the Internet, the music industry had a very simple price metric based solely on the physical carrier of the information (e.g., LP, CD, DVD). When peer-to-peer networks emerged, enabling the exchange of digitized information online, users could multiply and disseminate the information (i.e., music) without paying for it. In an even more recent example, American Airlines—followed soon thereafter by other major carriers—announced it will charge customers a fee for each bag they check ("Airlines Increase Ticket Prices As Fuel Costs Rise" 2008).

Furthermore, PMD may be a source of innovation. Michel, Brown, and Gallan (2008) demonstrate that the success of the DVD rental company Netflix depends partly on its decision to offer subscriptions that enable customers to keep movie DVDs for as long as they want. This PMD innovation addresses one of the biggest sources of dissatisfaction among customers in the rental movie industry: late fees. In this sense, it appears PMD may have a broader impact on business than just tactical, price-level decisions. Specifically, PMD may have the potential to facilitate or accelerate companies' transformations from selling products toward providing solutions. Although basic price metrics often focus just on the product sold, more recent pricing efforts that attempt to ensure the solutions provided generate adequate profit can be far more difficult (Roegner, Seifert, and Swinford 2001). As Tuli, Kohli, and Bharadwaj (2007, p. 5) point out, "a solution is not just a customized bundle of products that is exchanged for a price." Rather customers view solutions as set of relational processes, and such relationships make PMD challenging. Heating contracts serve as good examples of the switch from a product-based price metric to a solution-based one. Traditionally, owners of office buildings would buy a heating system and maintain it over its lifetime. With service contracting though, the heating company does not sell the heating equipment to the owner but rather offers a guaranteed temperature all year round for a predefined rate.

The apparent need to reevaluate PMD coincides with the possibility of changing price metrics, caused by shifts in cost structures. In traditional markets, the production of tangible goods generates significant variable costs, which often provide the basis for pricing. Most companies still apply some form of cost-plus pricing (Avlonitis and Indounas 2006; Cavusgil, Chan, and Zhang 2003; Nagle and Hogan 2006; Zhao 2005). Yet many knowledge-based businesses require investments in the form of fixed costs, while the incremental unit of output (e.g., one additional Google search) generates zero or insignificant variable costs (Sheth 2006). Thus, managers can become far more creative in their PMD.

LITERATURE REVIEW

Although extant literature does not use the term "price metric" consistently, we follow Nagle and Hogan (2006), who define price metrics as the units to which the price applies.

Literature on pricing generally consists of two main research areas: behavioral responses to prices (customer perspective) and pricing management (firm perspective). Pricing management studies include topics such as the bundling/unbundling decision, flat-rate and per-use pricing, price-matching guarantees and refunds, and yield management (Winer 2005). Although both bundling/unbundling decisions and flat-rate/per-use pricing relate to price metrics, extant literature does not provide a comprehensive framework for price metrics (see Winer 2005 for a review). In support of this claim, we note this apparent gap in some of the best-selling textbooks on pricing (Monroe 2003; Nagle and Hogan 2006)

Bundling is a special case of PMD that companies frequently use to sell "two or more separate products in one package. Separate products are defined as products for which separate markets exist" (Stremersch and Tellis 2002, p. 56). A few examples include vacation packages (hotel, airfare, food included), digital services (cable, telecom, Internet), and education (tuition, room, board). Overall, bundling has increased profitability for many companies through its strong influence on customer behavior (Soman and Gourville 2001).

A more general application of PMD involves subscriptions, for which a firm can charge a flat fee, a per-use fee, or some combination. Subscription pricing is especially significant in industries such as telecommunication, in which the variable costs per use are negligible to the company but valuable to the customer. Customers often overestimate their usage when choosing a flat-rate plan, and they find it easier to switch from a per-use plan to a flat fee than from a flat fee to a per-use plan, even when the two alternatives are financially equivalent (Winer 2005).

One of the few empirical studies of price metrics considers whether bank customers will pay for consulting services from their bank (Kaas and Severidt 2002). Banks face a dilemma, in that their costs derive from the consulting service, not established price metrics, calculated as a percentage of transaction or asset volume. Thus, in general, customers with more assets and fewer consulting needs actually subsidize customers with fewer assets but greater consulting needs. In contrast to experts' opinions and common practice, Kaas and Severidt (2002) report that customers prefer an hourly fee for consulting rather than a transaction or annual fee. Another empirical study of advertising agencies indicates that the pricing trend has moved away from billing-based toward cost-based fees, and then on to incentive-based fees (Zhao 2005).

EXPLORATORY STUDY

For our exploratory study, we conduct open interviews with freelancers, whom we define as independent workers who offer their services to companies without being employed by these companies. We choose this context for two reasons: First, surveying firms with multiple decision makers either requires multiple interviews in each firm or suffers a potential bias due to the key informant approach (Homburg, Workman, and Jensen 2002). Second, freelancers, as a part of the self-employed workforce, constitute a significant share of the economy. In Canada, for example, self-employed workers represent 15.6% of the workforce as of the first quarter in 2006, or 2.5 million workers ("*Key Small Business Statistics, How Many People are Self-Employed?*" 2006). In certain industries, the rate is even higher; 30% of the 71,000 announcers for public events in the United States are freelancers, as are 25% of graphic designer and 70% of artists (*Arts, Design, Entertainment, Sports, and Media Occupations* 2008). Despite their impact on the economy though, freelancers remain largely neglected by academic marketing literature.

Sample

During a period of two months, we located a collection of freelancers through personal contacts. Because of the exploratory nature of our study, our participant selection criteria are both liberal and nonrestrictive. Thus, the freelance respondents specialize in many different trades, have varying years of experience, and hail from an assortment of different industries (see Table 1). We conducted 20 qualitative interviews, each lasting between 16 and 63 minutes. Six interviews took place face-to-face, whereas the remaining 14 required telephone contacts.

INSERT TABLE 1 HERE

Data Collection and Analysis

Because our research is exploratory, we abandon the use of a structured set of questions and instead use mind maps to transform rigid interviews into more fluid conversations. With the participants' consent, we audio-recorded all interviews.

After conducting several interviews, we discussed the common themes and areas that required further data collection. The following primary issues emerged as interesting concepts on which we hoped to expand:

- How a freelancer finds business.
- How a freelancer markets his or her services to potential clients.
- The process by which a freelancer puts a dollar value on his or her service.

We gear our questions toward these main topics while using probes and follow-up questions to obtain more in-depth descriptions. On the basis of our exploratory study, we introduce several findings related to freelance activity and PMD that have not appeared previously in marketing literature.

MODEL

On the basis of our interviews and a review of the literature, we present a preliminary model that describes the nature and a set of potential antecedents of PMD.

Nature of PMD

Although the degrees of freedom for PMD vary, in most cases, firms use either firm-based or customer-based price metrics. Firm-based metrics remain independent of customers' usage, whereas customer-based metrics get defined through the customer's value cocreation. For example, a consulting firm can bill by the hour or by project accomplished (firm-based), or it can price according to the cost savings the client generates (customer-based). In the GE jet engine example, the manufacturer switched from a firm-based price metric (jet engine) to a customer-based price metric (power by the hour).

Because value is always cocreated with customers (Vargo and Lusch 2004; 2008), it is always possible, at least theoretically, for the firm to charge for what it delivers and for what the customer uses.

According to our interviews with freelancers, the central PMD involves choosing between charging an hourly fee (firm-based) or charging a flat fee for the project (customer-based):

> I do both ways, I do an hourly rate and I also say that I do a flat rate. And when I do a flat rate I take into consideration what the project is as far as what it's going to entail. You know like is it a print piece, is it a brochure, how many pages, is it color, you know that kind of thing (Interview #4, line 31).

Probably the most extreme case of a customer-based metric was expressed by a freelance consultant, who chose to take an equity stake in the cash-strapped start-up companies for which he consults:

> I'm talking equity stake with these people, in many cases. Especially now that I'm starting to get specific in a very specific niche area, all I want is 10% (Interview #6, lines 57-58).

Proposition 1: *The PMD consists of at least two alternative price metrics: firm-based versus customer-based.*

Antecedents

According to both common practice and popular textbooks (Monroe 2003; Nagle and Hogan 2006), three factors (the 3Cs) should inform a pricing decision: costs, competition, and customer's willingness to pay. Price comparisons with competitors requires a common price metric, which is context specific (e.g., industry, country, legal).

In our freelancing study, we learn that the typical metric for freelance work is an hourly fee, though for high-level management consulting, it is usually a daily fee:

> Every decent consultant is going to cost around $3,000 a day and the really good ones, the best ones, around go for about $10,000 to $12,000 a day (Interview #15, line 19).

Yet for wedding photographers, the industry norm is a flat fee:

> *Interviewer*: And who sets the hourly rate?

> *Respondent*: That's a really good question, but I don't know. I think it's an industry norm. But that's a very good question because for my wedding photos we didn't pay by the hour, but by the package (Interview #3, line 33).

Proposition 2: The preferred PMD is context specific.

According to early economists and marketing scholars, markets consisted of exchanges in which one party, the seller, delivered a physical product to the other party, the buyer. As Lovelock and Gummesson (2004) point out, a key characteristic of this paradigm is the transfer of ownership. When a farmer sells apples to a consumer, that consumer gains ownership over the fruit. Since the appearance of Adam Smith's seminal *The Wealth of Nations* (2002), first published in 1776, wealth commonly has been associated with the ownership of valuable goods. In this goods-dominant logic (Vargo and Lusch, 2004), it makes sense that firms would be inclined to exchange the ownership of valuable goods for money:

Proposition 3: If a market exchange leads to a change of ownership, the objective of the ownership is likely to be the price metric.

Because firms can survive only if they generate a positive cash flow over the long run, on average, the price for an offering must be higher that the costs associated with producing it. Substantial research debates which costs to consider (Arnold and Hoffman 1989; Ford et al. 2002; Lere 2001; Nagle and Hogan 2006; Sullivan 1986), and empirical research shows that a cost-plus approach to pricing remains very common (Arnold and Hoffman 1989; Cavusgil, Chan, and Zhang 2003). In freelancing though, the main cost is salary, which often leads to a time-based metric:

> Basically there was one designer that I worked three days a week for and that was a full eight-hour day when I was working for them. And then there was another designer that I worked for at the same time, for two days a week and I was paid hourly so I literally logged in my hours of how much I was doing for them (Interview # 5, line 21).

Proposition 4: The more closely costs can be associated with a metric, the more likely this metric will be used as a price metric.

From the customers' perspective, a similar cost-based argument persists, in that customers usually need to procure a certain amount of products and services with a given budget. One respondent explained that this limitation often leads to a flat fee:

> No, well some companies don't like it because they have to be on a budget so they want freelancers to tell them it's going to be $5,000 (Interview #7, lines 47-49).

Proposition 5: *Customers operating under budget constraints prefer a customer-based metric to a firm-based metric.*

When PMD involves a change of ownership, measurability becomes a less significant problem: Firms charge customers a price based on the number of products, weight, or volume. In situations in which firms look for alternative price metrics, measurability emerges as critical. To illustrate this point, consider the PMD for a translation service: If the translator uses the number of words as a price metric, measurability is straightforward. However, the number of pages is more difficult to measure if the exact format (e.g., font size, border, line space) has not been specified. Even more challenging would be assessing a price metric linked to the complexity and difficulty of the text.

Proposition 6: *The easier it is to quantify a metric for both the firm and the customer, the more likely will it be used as a price metric.*

When pricing an offering that involves a contract characterized by information asymmetry, uncertainty, and risk, principal agent theory distinguishes between two types of agency problems, pre- and postcontractual (Bergen, Dutta, and Walker 1992). The PMD belong to the first category, such that the principal (customer) and agent (firm) try to minimize their agency costs by choosing price metrics that align the principal's objectives with the agent's objectives:

> I try to avoid project-based because most of my consulting issues are self-issues … how do I analyze succession planning for a 20,000 employee organization when I have 4 possible candidates for the next CEO? If I agree on a flat project fee, I might find that it takes months longer than expected and that's a problem. What I do is I estimate the project length with the customer and agree on how many actual days they need me to be on site, looking at the data and looking at the projects and discussing alternatives with them, or the value I bring to the table educating the client who has been running his own family business for years about what other family businesses have already found so we're not reinventing the wheel with every problem (Interview #15, line 29).

> I have been looking into doing hourly. That works for me. A lot of places want to do a day rate which I often don't like to get myself into because that means I'm locked down until 9 or 10 at night sometimes and not getting paid accordingly, so I try not to do that (Interview #2, lines 56-57).

Proposition 7: *Firms (agents) prefer price metrics that align their objectives with the objectives of the customer (principal).*

Proposition 8: *Customers (principals) prefer price metrics that align their objectives with the objectives of the firm (agent).*

When setting prices, firms rarely focus just on maximizing profits, as neoclassical economics suggests. Rather, extant literature suggests complementary or competing objectives, such as sales maximization, market share maximization, return on investment, image positioning, and price stability in the market (Avlonitis and Indounas 2005). In turn, PMD can help balance those goals by iterating between a firm-based metric and a customer-based metric. In our study, one freelancer formally uses a firm-based metric (hourly rate) but also converts back and forth to a customer-based metric (total cost of the project) to achieve competing goals (i.e., keep a fixed hourly rate versus increase the probability of getting the contract):

> That's always the trick! Most consultants, like I have an hourly rate I'll charge. So if you ask me what I charge I would tell you an hourly rate. Or maybe I'll change it to a day rate. But you know when you have a big job, you don't necessarily charge your hourly rate. You might want to bring that down a little bit and you have to decide what you think is going to be competitive. That's always the trick, you don't want to charge too little and you don't want to charge too much if you want to get the project, so it's a bit of a balancing act, is what it's all about (Interview #8, line 27).

Proposition 9: *Firms iterate between firm-based pricing and customer-based pricing to balance conflicting goals.*

DISCUSSION

For most companies, the PMD is an important strategic decision, yet it remains underresearched and often neglected. As management consultant Richard Normann (2001, p. 126} has stated (using the term "price carrier" as a synonym for price metric): "What has often surprised me, however, is to what great extent the difference between the offering and the price carrier is poorly understood by companies, particularly in traditional manufacturing companies". Our literature review indicates that not only practitioners but also academics largely neglect the study of the PMD. Such a finding usually implies that a topic is not relevant or that assessments of its relevance are inaccurate. We are convinced of the latter in this case. Not only does the PMD have a direct influence on revenues, profits, and customer behavior, but it also is a crucial aspect of the firm's strategic pricing capability (Dutta, Zbaracki, and Bergen 2003).

Our exploratory study represents an initial step toward a better understanding of the PMD. First, we propose that the PMD consists of at least two alternative price metrics, namely, firm-based and customer-based. Secondly, we propose eight antecedents for a PMD.

FURTHER RESEARCH

Further research on the PMD should move across several domains. First, the literature review we present needs to be deepened and broadened. Specifically, research in economics and accounting should be integrated into the discussion. Second, the preliminary model we propose should be extended and refined, especially with regard to making the PMD the central construct and operationalizing it more clearly. Research should also detail and categorize potential antecedents of the PMD. Third, due to space limitations, we do not discuss the consequences of the PMD. Further empirical research could fill these gaps and generalize our findings beyond the freelance service market.

Table 1. Sample Description

Variables	Category	
1. Experience (years)	Range	1.5–15 years
	Average	5.45 years
2. Freelance functions	Business planning	n=6
	Corporate design	n=2
	Fine arts	n=2
	Graphic/Web design	n=5
	Other	n=5
3. Industry	Advertising/marketing	n=7
	Corporate consulting	n=5
	Information technology	n=2
	Other	n=6

Appendix. Examples of Price Metrics

Example	Price Metric	Offerings Without Price
McDonald’s	Food, premium salads	Playground, fun for kids
Starbucks	Premium coffee, beverages	Environment, service
Movie theater	Ticket, high margin food	Stadium seating, sound system
Banking	Credit card fees	Free checking
Disneyland	Ticket, high margin goods and food	Rides
Wireless service provider	Monthly fee, service charges	Phone, other products
Cable service provider	TV, phone, internet	Additional channels
Casinos	Gambling, drinks	Food, entertainment
Hotels, resorts	Room, food and drinks	Amenities, gift offerings
Retail pharmacy	Rx, high margin products	Rx information and instruction
Google	Advertising	Search engine, e-mail
Software providers	Product, license fees	Service, training, tech support
Fitness club membership	Monthly or annual fee, services	Amenities, gift offerings
Online photo archives	Picture prints	Electronic storage space /viewing
Barber shop	Hair cut	Hair products, wash hair
Barnes & Noble	Books and other products	Environment, read magazines
Cosmetics store	Cosmetic products	Advice, application, samples
Appliances, furniture	Product	Delivery, 0% financing /reclamation
Music device (iPod)	Product, music downloads	ITunes software
Education services	Tuition	Career center, library, tutor
Cruise, Club Med	All-inclusive price	Entertainment, food
Health insurance	Premium, deductible, co-pay	Health management web account
Select Comfort	Mattress, bed products	Sleep evaluation, expert consult
Microsoft	Windows, office suite	Internet explorer
Coldwell Banker	Commission on home sale (seller)	Personal tours, internet searching
Men’s Wearhouse	Suites, other products	Tailoring, steam press, advice
Jewelry stores	Jewelry	Maintenance, cleaning, advice
Monster.com	Advertising, paid job posting	Search jobs, information resources

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