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New printing technology and pricing

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Abstract

This case study analyzes five Swedish printing houses' pricing with respect to their investments in new printing technology. The new printing technology made it possible for the printing houses to market new products and services to meet the demand for shorter delivery times and full service solutions. Although this demand was apparent, the printing houses' opportunities to capitalize on their investments depended on the characteristics of the market segment that they served. Findings indicate that the new printing technology made it possible to change prices when the new services reduced delivery time and costs, and when there were substantial differences between the new services and available substitutes. Thus, customers accepted new pricing when the utilization of the new technology resulted in financial gains and time reductions.

Keywords: Competition; Investments in new technology; Perception of value; Pricing

1. Introduction: price-driven markets and pricing problems

The globalization trend over the last decades has resulted in increased price competition. Clearly, removals and reductions of trade barriers, improved communication technology, and swift logistics have made it attractive for firms in Europe and in the U.S. to outsource production to countries with low labor costs. Most industrial markets are, therefore, more price competitive than they were a decade ago (Christopher & Gattorna, 2005; Solberg, Stöttinger, & Yaprak, 2006; Voeth & Herbst, 2006). Also, the competitive landscape is influenced by technological advancements (Smith, Sinha, Lancioni, & Forman, 1999) with change as a constant challenge for those in charge of technology management (Danaher, Hardie, & Putsis, 2001). The far-reaching effects of the new production technology are apparent in concepts like mass customization (Jacob, 2006), and on-demand production (Wind, 2006). Thus, while most industrial markets are increasingly price-driven, technological advancements are important in creating competitive advantages. However, although technological advancements create new product features, it might be difficult to adjust pricing so that it reflects the value of the new features (e.g. Jenster, Hayes, & Smith, 2005, p. 175; Lancioni, Shau, & Smith, 2005). In particular the problem of making such price adjustments indicates in markets characterized by intense competition and price pressure. Under such market conditions supply exceeds demand, which makes it possible for customers to benefit from new value-added features without having to pay for them. Consequently, as competition intensifies, it becomes problematic for suppliers to make prices reflect the value-added of new products and services.

The challenges associated with investments in new technology, competition and pricing are apparent in the printing industry. Nagle and Cressman (2002) presented an interesting example of a printing company, which was committed to quality work and high levels of customer service. Despite this commitment, it was hard for the printing company to set prices so that they reflected the value of their services. According to Nagle and Cressman (2002), besides competition, the reason why pricing remained unchanged

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was that managers viewed the printed products as commodities, with services merely as “value-adds.” Thus, competition in the market and the managers' view on printed products affected the printing company's pricing, and hence, its profitability.

The purpose of this paper is to analyze how five Swedish printing houses have been able to capitalize on their investments in digital printing technology. With the investments in new digital printing equipment, the printing houses have tried to obtain competitive advantages through upgraded products and services. Compared to conventional printing technology, digital printing makes it possible to reduce delivery times, print shorter series, and increase customization of the printed products (Mejtoft, 2006). Also a difference is that costs per printed copy are relatively high with digital printing, which makes it necessary for the printing houses to adjust their pricing of products and services. Thus, new pricing is needed to capitalize on the investment in the new printing technology. However, due to competition from printing houses in low cost countries, the competitive climate has intensified with over capacity and price pressure characterizing the printing business (Birkenshaw, 2004; Mejtoft, 2006; Smyth, 2006). Given these market conditions, it is of interest to study whether the five printing houses' investments have resulted in changed pricing.

This paper makes a contribution to our understanding of aspects that affect firms' opportunities to capitalize on investments in new technology in markets characterized by intense competition. Although it is well known that intense competition and price pressure affect firms' opportunities to capitalize on their investments, it is of interest to find empirical evidence, and discuss how these aspects are reflected in firms' pricing. Practitioners may find this paper interesting since attention is directed at aspects affecting pricing of products and services made possible through investments in new production technology.

2. Background

2.1. Price and pricing challenges

It is common knowledge that price is the only variable of the marketing mix that generates revenues; all others involve expenditures (Rao, 1984). Therefore, the price decision is perhaps the most significant among the decisions of the marketing mix. Also, as suggested of Gummesson (2004), pricing is maybe the most important aspect of value creation. At the right level, prices contribute to profits and competitive advantages. However, as observed by Garda (1983), among general managers of industrial firms, uneasiness about pricing is more the rule than the exception. In the same spirit, the studies of Smith et al. (1999) and Lancioni (2005a) highlight the fact that managing prices is not an easy task in today's competitive markets. Similar observations are made by Forman and Hunt (2005) who noted that the uncertainties associated with the current dynamic environments make pricing decisions difficult. Clearly, rapid changes in information systems, proliferations of product lines, and advances in technology are but a few of the elements that make development of pricing strategies difficult (Forman & Hunt, 2005). Furthermore, the challenges associated with pricing have increased with the internationalization of business over the last decades (e.g. Bolton & Myers, 2003).

When looking at the challenges facing managers in charge of pricing we find that, from the manufacturer's perspective, price communicates certain levels of quality that give certain positions to the product (Mèndez, Oubina, & Rubio, 2006). According to Shipley and Jobber (2001), the high complexity of pricing is why many firms apply standard operating procedures such as cost-based pricing to simplify the tasks involved. The study of Mochtar and Arditi (2001) discusses two problems associated with cost-based pricing. First, there is a possible risk of under pricing, which may harm profitability. Ultimately, under pricing involves risk of great losses, which may threaten the survival of firms. The second risk is over pricing, which may cause firms to lose bids to offers with more attractive prices.

According to Potter (2000), effective use of the pricing tool in a price sensitive market requires flexibility and market knowledge. Managers' learning how to estimate price levels in the market is facilitated by contacts and negotiations with customers, and through information about competitors' prices (Nagle & Cressman, 2002). In this sense, contacts with customers generate information of great value for identification of appropriate price levels. Firms that offer services with frequent customer contacts will, therefore, have an advantage in the setting of appropriate prices. This view is supported of Voss, Parasuraman, and Grewal (1998), who suggested that price–performance inconsistencies may be easier to detect in service than in product contexts. Products and services that offer less frequent contacts with customers, on the other hand, adversely affect the setting of appropriate prices. Clearly, less frequent contacts make it particularly difficult to detect under priced products, while overpriced products may indicate immediately when bids are lost to competitors. Consequently, as proposed by Avlonitis and Indounas (2006), managers responsible for setting prices are strongly advised to investigate all the aspects that may affect their companies' pricing.

2.2. Value components and pricing

According to Lancioni (2005b), it is important that the prices that an industrial company charges reflect the value-added content of its products and services. Also, as suggested by Jenster et al. (2005), because the price reflects the customer's perception of the value of a product or service, all other marketing decisions come together in the pricing decision. The studies of Sturts and Griffis (2005) and Mochtar and Arditi (2001) indicate that it may be particularly hard to assess the value of a service. The problems to make such assessments are based upon difficulties to estimate the value of expertise, creativity and quality (Sturts & Griffis, 2005). It is, therefore, important to determine what services customers deem valuable, what services they are willing to pay for, and to let these insights govern pricing (Sturts & Griffis, 2005).

The model of Smith and Nagle (2005) defines four value levels, which are: value in use, value in exchange, perceived value, and willingness to pay. The model, therefore, conceptualizes how competition affects customers' perception of value, and hence, factors affecting pricing in a competitive market environment.

As shown in Fig. 1, value in use is the monetary value that a customer receives as a result of using the product or service. Production equipment, for example, may be sold at a price of