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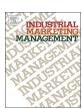
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Introduction

# Unit pricing and its implications for B2B marketing research

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## ABSTRACT

While it is well known that price is the only marketing mix variable that generates revenue, it is also true that pricing strategies are diverse in complexity and formulations. Over 40 years ago, legislation was approved to require the use of unit pricing to facilitate consumer decision making. Among other research, Monroe and LaPlaca (1972), examined this new phenomenon; and after some controversy, the benefits of unit pricing were confirmed by the general scholarly community. Will those benefits sustain in B2B settings? As a result of the findings from this research, we propose the fusion of unit and value-based pricing as a new approach. We call it unit value-based pricing. The main difference with classical unit pricing is the perspective shift from cost to the customer perceived value. Unit value-based pricing helps the supplier to capture a fair share of the value created and makes more robust and efficient the purchasing procedures of industrial customers. After reviewing the impact of the Monroe and LaPlaca (1972) article on pricing research, we discuss the implications of unit-value based pricing, offer nine propositions for further research, and shed some light on the proposed benefits through a case study.

## 1. Introduction

Doctor Peter J. LaPlaca has been a leader in the area of industrial marketing, also known as business to business marketing, for five decades. He completed his Ph.D. in January of 1973 at Rensselaer Polytechnic Institute. His dissertation research focused on unit pricing and led to an article in the Journal of Marketing just prior to the successful defense on his dissertation. The article entitled "What are the Benefits of Unit Pricing?" was published with Kent B. Monroe who was the outside member of Peter's dissertation committee. Kent was a professor of marketing at the University of Massachusetts at the time and the state of Massachusetts had just passed and was adapting to a law requiring unit pricing. A more thorough analysis will be made of the numerous contributions Professor LaPlaca has made in research in the next section. Before that it is valuable to set the framing for these many contributions by examining some of the other contributions Peter has made to marketing and to society.

From an actual practicing of business perspective, Peter holds U.S. Patent number 6,121,881 for protective mask communication devices and systems for use in hazardous environments. He was also active in marketing the device and improving the environmental safety of first responders. Peter has served in many leadership roles in academia and in charitable work. Some of these include as associate dean at the University of Hartford and as a member of the Council of Deans. In charitable work he served as the chairman of the board of directors of

the Community Health Charities of New England and on the board of trustees of the National Multiple Sclerosis Society for the Greater Connecticut Chapter. His skills in marketing helped these organizations dramatically increase their fund raising activities.

His two most visible roles of leadership have been as the founding editor of the Journal of Business and Industrial Marketing and as the editor-in-chief of Industrial Marketing Management for which this article is being written. It was through one of these journals the first author of this article really learned to know and understand Peter and become a friend and occasional golf partner. Although Peter and the first author met in Sweden at the conference to celebrate the 75th anniversary of the Stockholm School of Economics (where Peter's daughter baby sat for his two children while they and their wives attended the festivities), they did not follow up on the meeting until Peter called the first author to ask if he was interested in becoming the editor of the Journal of Business and Industrial Marketing (JBIM). Peter was in transition and wanted more time to work on business activities and other pursuits. The first author of this article agreed and has continued as the editor of JBIM until today. Not too many years after that, missing the role of editor, we think, Peter became the editor of Industrial Marketing Management (IMM). Peter helped the first author pick up the needed skills of an editor and has been a role model for him to follow in his career with JBIM. Peter has always offered helpful ideas and they have become close friends. One other early meeting place for Peter and the first author continued for many years as well. They were both attendees

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Table 1
Peter J. LaPlaca research streams.

Title	Journal	Year	Stream(s)
Advancing theory and knowledge in the business-to-business branding literature B2B: A paradigm shift from economic exchange to behavioral theory: A quest for	Journal of Business Research, 69 (8) Psychology and Marketing, 33 (4)	2016 2016	B2B theory/branding B2B theory
better explanations and predictions Assessing brand personality associations of top-of-mind wine brands	International Journal of Wine Business	2015	Branding
Advancing industrial marketing theory: The need for improved research	Research, 27 (2) Journal of Business Marketing	2014	B2B theory
Research priorities for B2B marketing researchers	Management, 7 (1) Revista Española de Investigación en Marketing, 17 (2)	2013	B2B theory
Development of B2B marketing theory	Industrial Marketing Management, 42 (2)	2013	B2B theory
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A note on knowledge development in Marketing	Advances in Business Marketing and Purchasing, 18	2012	B2B theory
Reply: Assessing B2B research in the marketing literature	Journal of Business-to-Business Marketing, 16 (1–2)	2009	B2B theory
Relative presence of business-to-business research in the marketing literature	Journal of Business-to-Business Marketing, 16 (1–2)	2009	B2B theory
Korean economic growth and marketing practice progress: A role model for economic growth of developing countries	Industrial Marketing Management, 37 (7)	2008	Emerging markets
Commentary on the essence of business marketing	Journal of Business-of-Business Marketing, 15 (2)	2008	B2B theory
A history of the journal of business and industrial marketing	Journal of Business and Industrial Marketing, 21 (7)	2006	B2B theory
Innovation and new product introductions in emerging markets: Strategic recommendations for the Indian market	Industrial Marketing Management, 35 (3)	2006	Innovation/emerging markets
Marketing in the emerging era of build-to-order manufacturing	Industrial Marketing Management, 34 (5)	2005	Manufacturing/B2B theory
The Wiremold Company: Listening to the voice of the customer Contributions to marketing theory and practice from Industrial Marketing Management	Business Case Journal, 12 (1) Journal of Business Research, 38 (3)	2004 1997	Voice of the customer/innovation B2B theory
Assessment of the alliance process for service companies	The Management Audit Portfolio, winter (93/94)	1993	Alliances/services
Contingency pricing for improved profit performance	Journal of Business and Industrial Marketing, 3 (2)	1988	Pricing
Factors impacting the adoption of high technology innovations	High Technology Marketing Review, 1 (1)	1987	Innovation
A model for hospital decision making processes and relationships	Journal of Health Care Marketing, 5 (2)	1985	Health care/services
Increasing doctor participation in hospital marketing programs	Profiles in Hospital Marketing, October (83)	1983	Health care/services
Steps in developing an employee risk reduction program	Profiles in Hospital Marketing, July (83)	1983	Health care/services
Segmenting markets for hospital services	Profiles in Hospital Marketing, April (83)	1983	Health care/services
Industrial marketing education — Current status and future needs Demarketing of overused hospital services	Journal of Marketing Education, 5 (3) Profiles in Hospital Marketing, January (83)	1983 1983	B2B theory/education Health care/services
Perspectives on high technology	Human System Management, December (82)	1982	Innovation
Getting your money's worth from marketing research information	Hospitals, November (82)	1982	Market research/health care
A systems approach for developing high technology products	Industrial Marketing Management, 11 (4)	1982	Innovation
Meshing sales compensation with strategic goals	Medical Marketing and Media, June (82)	1982	Sales force/health care
Compensation plan aligns sales force efforts with industrial firm's objectives	The Marketing News, June (82)	1982	Sales force
External marketing research on a budget Internal marketing research on a budget	Profiles in Hospital Marketing, April (82) Profiles in Hospital Marketing, January	1982 1982	Market research/health care Market research/health care
Effective international marketing	(82) Eastern Connecticut Industry, November (81)	1981	International business
Internationalizing the required MBA marketing course Assessing the risk in strategic planning	Journal of Marketing Education, 3 (2) Industrial Marketing Management, 10 (2)	1981 1981	International business/education Marketing risk/strategic planning
Video tapes as a dimension of instructional technology: A case study	Journal of Marketing Education, 2 (1)	1980	Education
Community attitude measurement: A methodology for social applications of marketing research	European Research, May (79)	1979	Market research
Unit pricing: A microeconomic experimental investigation	Journal of the Academy of Marketing Science, 4 (1)	1976	Pricing
Strategic planning in a period of transition	Industrial Marketing Management, 4 (6)	1975	International business/strategic planning
What are the benefits of unit pricing?	Journal of Marketing, 36 (2)	1972	Pricing

at the first IMP Group (Industrial Marketing and Purchasing) conference in 1984. Both of the journals have been supporters of the IMP Group conferences by publishing special issues. It is a rare IMP Group conference when neither Peter nor the first author are in attendance. In 2013, Georgia State University, Center for Business and Industrial Marketing, which is directed by the first author of this article, hosted the IMP conference and Peter served as the doctoral consortium coordinator. There is too little space to list all of Peter's accomplishments and contributions so let us move on to examine his extensive

contributions to research.

#### 2. Peter LaPlaca research streams

During Peter's scholarly career, intensive research endeavors were pursued. It involved 16 general streams (see Table 1) and they were changing and evolving through time. His career can be separated and analyzed in four time periods: (1) the beginning, (2) the versatile B2B researcher, (3) extending B2B research, and (4) the B2B marketing

ambassador. We analyze the main ideas of each period. While this overview is not exhaustive, it offers clarity and explanation about the academic career of Peter LaPlaca.

#### 2.1. The beginning (1972–1979)

Research interests of Peter were focused on pricing, strategic planning, international business, and market research. In collaboration with Kent Monroe, "What are the benefits of unit pricing?" (1972) is published in the Journal of Marketing (JM). They analyze the impact of the new unit pricing requirement for retail stores established at 1970 in the state of Massachusetts. This paper marked the beginning of Peter's career. We strongly believe that unit pricing represents a milestone for his success as researcher and educator. Therefore, we dedicate our attention to unit pricing and we subsequently analyze its major contributions and ramifications to B2B pricing in different sections.

At this early stage, he commences to get involved in B2B marketing theory. "Strategic planning in a period of transition" (Hempel and LaPlaca, 1975), published in Industrial Marketing Management (IMM), provides an interesting and disruptive view at the time, regarding the status of the business environment. The authors proposed an idea of transition to improve planning, in a sense whereas markets were changing from relatively stable and predictable to dynamic and predominately uncertain. Nowadays, the conception of market is inherently complex and one key characteristic is its intense turbulence (Day, 2011; Tsai & Yang, 2013; Winter, 2003). Therefore, companies need to work on improving their process of adaptation to changing environmental conditions in order to survive. B2B firms should implement dynamic and adaptive marketing capabilities (Day, 2011) to respond efficiently to the turbulent business context. Another research stream that reached Peter's motivation was market research. The measurement of attitudes has been acknowledged as relevant by psychology (e.g., Fazio, 1990) and marketing research (e.g., Aggarwal, 2004; Peters, Pressey, & Johnston, 2017). Peter was concerned in the social applications and the group or community articulation (1979) of attitudes. The latter is intrinsically important for B2B marketing theory as decisions are commonly made by teams (e.g., decision making unit or buying center). This link between attitudes and behavior has been studied in different contexts such as services (Williams, Khan, Ashill, & Naumann, 2011) and products (Michell, King, & Reast, 2001) in the B2B literature, showing strong connection. Past experiences influence current attitudes of B2B customers and this is a central component of the customer experience (Lemon & Verhoef, 2016). All in all, these incipient research streams contributed and encouraged the work of several recognized marketing researchers such as Aaker and Ford (1983) and Shama (1981).

#### 2.2. The versatile B2B researcher (1980–1990)

The 1980-1990 period was his most exhaustive research advancement. Peter's perspectives and contributions fluctuated among education, strategic planning, marketing risk, international business, market research, health care, sales force, innovation, services, and pricing. For example, Shah and LaPlaca (1981) describe the key elements of marketing risk and their impacts on the development of strategic marketing plans. The rationale supporting this manuscript is that B2B decision making is not guided by the objective of eliminating risk, but rather the accounting of risk in the process. Moreover, this study offers taxonomy regarding the types of risks and is one of the first in relating crossfunctional orientations such as finance, management and technology to firm performance. Marketing in its challenge to be an integral part of the organization needs to be in continuous interaction with other areas, specially finance. According to Kumar (2015, p. 3) "the field expanded its investment-based outlook of marketing by bringing more accountability to marketing activities, consequently earning an important place in corporate boardrooms." Another relevant contribution is related to the application of marketing theory in the health care industry.

Miaoulis et al. (1985) discussed the situation whereas hospital administrators increasingly were recognizing that establishing a marketing function is necessary for their hospitals' long-term planning. The main resulting suggestions are relevant in every industry: (1) administrators recognize that the understanding of marketing precedes successful implementation and (2) administrators must realize that integrating marketing into a company (e.g., hospital) organizational structure is an evolutionary process. This is especially important for B2B companies, because many firms do not possess the marketing function and it is even less perceived as an orientation and philosophy of business. At the end of this time period, Peter introduced "Contingency pricing for improved profit performance" (1988) as his first Journal of Business and Industrial Marketing (JBIM) paper. He demonstrated through case studies that "the economic value of a product to the customer is a measure of economic utility which the customer receives from the product when it is used in a specific application" (p. 65). Contingency pricing is the foundation of value-based pricing because the amount of benefit received by the buyer depends on the product usage and form of use. Further research has been done in these streams by academics such as Reid and Plank (2000) and Kim, Kim, Kim, Kim, and Kang (2008).

#### 2.3. Extending B2B research (1991-2005)

During these years, Peter started to work on the development of general B2B theory, but kept deepen on services, innovation, voice of the customer, alliances, and manufacturing literature. In collaboration with Ken Wexler, "Assessment of the alliance process for service companies" (LaPlaca and Wexler, 1993) offers an overall perspective about alliances and value co-creation in service settings. Alliances have been acknowledged as key in B2B marketing (e.g., Lazzarini, Claro, & Mesquita, 2008). In addition, alliances are also a relevant component of international business and start-ups development (Perez, Whitelock, & Florin, 2013). Conceptually, alliances involve partners combining competencies and resources in a process of systematic learning with the goal of creating value. Partners working together build governance structures to mitigate risks of opportunistic behavior and foster interpartner trust. All elements related to managing buyer-seller relationships, prominent stream of B2B marketing research.

Customization of manufacturing procedures increases the challenges for B2B marketers. Sharma and LaPlaca (2005, p. 476) stated that "build-to-order processes allow marketers to customize products to a greater degree, creating a competitive advantage over traditional manufacturing." The rationale of this study is that firms measure the needs of each customer individually and manufacture for and service those needs. However, the individualization process is highly expensive and generates cross-functional tension. The decision of adopting a oneto-one approach requires the sustainability of business (Fredriksson & Gadde, 2005; Henke, 2000). The heterogeneity among customers restrain the supplier's ability to segment the market efficiently, but increase the opportunity for marketing to generate insights about the firm's approach to the market. In line with this stream, Peter also explored the impact of voice of the customer on innovation. Fransson, LaPlaca, and Maynard (2004) investigated how a manufacturer of wire management products adapted to changes in the marketplace. The selling and innovation process required the participation of architects, building owners, and mechanical consultants due to their influence to the contractor's choice of electrical wire management systems, minimizing the total cost of ownership. "Aesthetics were also becoming more important as building owners increasingly competed to attract tenants" (2004, p. 3). The company adopted an integrative value chain perspective, managing commercial and informational flows to enhance the perceived benefits of each stakeholder. Therefore, this case study is a relevant precedent to the marketing in an open network approach proposed by Day (2011). The intervention of multiple actors in the value chain is an essential part of B2B marketing relationships and value co-creation. While more actors participate in the value creation

process, more complex the management of the end-user needs. All in all, these marketing endeavors are related with current research in B2B theory and practice (e.g., Griffin, Price, Vojak, & Hoffman, 2014; Nagy, Schuessler, & Dubinsky, 2016; Rollins, Bellenger, & Johnston, 2012).

#### 2.4. The B2B marketing ambassador (2006-2016)

In the last part of his academic career, Peter mainly focused on extending the validity and robustness of B2B theory. In addition, he dedicated special attention to the branding literature and explored marketing practices and innovation for emerging markets. Peter participated in several examinations of B2B marketing theory (e.g., LaPlaca, 2008, 2014). His main concerns are (1) the lack of B2B marketing research, (2) the gap between marketing theory and marketing practice, (3) the uniqueness of B2B marketing, and (4) the future research from theoretical and methodological perspectives. First, recognizing the contribution of IMM, JBIM, Journal of Business-to-Business Marketing (JBBM), and Journal of Business Marketing Management (JBMM), today fewer than 10% of all academic marketing articles are involved with B2B marketing. While the field represents more than 50% of all economic activity in the United States and European Union, B2B marketing is severely underrepresented in the overall marketing literature. Second, Peter acknowledge the gulf between theory and practice in marketing, calling for more applied work, while B2B marketers need to develop procedures to operatize good marketing theory in their organizations. Third, he highlights the relevance of pertinent B2B marketing topics such as buyer-seller dyad, networks and strategic alliances, organizational buying behavior, and selling and sales force management. Moreover, Peter asserts that "B2B marketing is less affected by cultural differences among global markets than is business-to-consumer (B2C) marketing" (LaPlaca, 2014, p. 184), which stress the less subjective character of B2B interactions. Building over traditional definitions of B2B marketing, he adds that successful marketing for industrial companies requires the establishment of mutually beneficial relationships between suppliers and customers with a long-term perspective. Four, he states that innovation and new product development and relationship marketing are growing rapidly in the last years, indicating the relevance for the field. Furthermore, B2B branding offers a relatively recent stream for researchers. It has been acknowledged that branding can enhance an organization's business performance and competitive advantage (e.g., Ohnemus, 2009; Pedeliento, Andreini, Bergamaschi, & Salo, 2016). Seyedghorban, Matanda & LaPlaca, 2016 propose that topics such as "intangible attributes and benefits of branding in B2B, industrial buyers' perception of branding, how to successfully brand products and services in B2B, branding and commoditization in B2B, and the market share, financial, and economic implications of branding in B2B are some of the issues warranting further empirical attention." From a methodological perspective, Peter acknowledge that in the endeavor of advancing the knowledge and understanding of business-tobusiness markets, researchers need to turn from a descriptive approach to an explanatory and predictive approach. The key insight is that B2B marketers would like to predict customer and market response to the efforts that the company is making (LaPlaca, 2014). Finally, we present Fig. 1 with the detailed evolution of the academic research developed by Peter LaPlaca from 1972 to 2016. Next, we examine unit pricing due to its importance for Peter's scholarly career.

#### 3. Unit pricing

Unit pricing (UP) can be defined as the practice of assigning a price per standardized unit of measure presented to consumers at a point of purchase. In practice, unit price is added to the regular price label in the retail shelf. UP has its origin in the United States at the beginning of the 70s decade. The state of Massachusetts was the first governmental entity to require unit pricing for retail stores (Monroe & LaPlaca, 1972); following in time, different states such as Connecticut, Rhode Island

and Maryland implemented the initiative. In other world latitudes, such as the United Kingdom, Spain, and Australia, UP also has been put into effect by means of legislation. Despite the UP expansion through the world and general acceptance that the practice provides information which aids the consumer in the decision making process (LaPlaca, 1976; Yao & Oppewal, 2016a), there are still gaps to fulfill. In general, consumers are likely to use it in making their choices (Manning, Sprott, & Miyazaki, 2003), but it is not always widespread and statutes and units differ widely around the world. Currently, the International Organization for Standardization (ISO) project committee ISO/PC 294, has started work on a global standard that will establish guidelines and principles of unit pricing such as visibility, accuracy, consistency and uniformity (ISO, 2016). This advancement would not be possible without the academic effort completed during the 70s and 80s decades (e.g., Aaker & Ford, 1983; Friedman, 1971; Isakson & Maurizi, 1973; LaPlaca, 1976; Russo, 1977).

#### 3.1. Unit price awareness and usage

The first exploratory concerns were related to the degree of awareness and usage of unit pricing. The general agreement at the beginning of the practice internalization was that consumer awareness levels fluctuated from 56 to 82% and only 30 to 55% of shoppers used unit price (Carman, 1973). In April 1980, Aaker and Ford (1983) replicated the 70s study regarding Safeway in Washington, D.C. (Friedman, 1971), finding that both awareness and usage levels increased during the 10 years period. More recent studies show that shoppers' awareness levels were as high as 90-95% and that more than 69% actually used unit price in the decision making process (Bogomolova & Jarratt, 2016). Another focus of research attention was the effect of demographic differences. From the early studies, findings generally informed that awareness levels of unit price were relatively high among consumers with higher levels of income, education or occupation status (e.g., Isakson & Maurizi, 1973; Monroe & LaPlaca, 1972). Regarding unit price usage, research commonly agreed that it is negatively related to age and positively related to household size and suburban (in comparison with urban) shoppers (e.g., Aaker & Ford, 1983; Friedman, 1971). Recent research keeps showing positive relationship between education and unit price awareness and use, but contradictory evidence is acknowledged regarding age of consumers (Bogomolova & Jarratt, 2016). For example, Mitchell, Lennard, and McGoldrick (2003) found that older people with higher levels of education were using unit price in contrast with people aged 34 or younger and consumers without college studies. In addition, several recent studies have found that price consciousness moderates the effect of education on unit price awareness and usage (Miyazaki, Sprott, & Manning, 2000; Yao & Oppewal, 2016a). Therefore, the contradictory evidence related to age can be explained by different levels of price consciousness.

### 3.2. Benefits of using UP and challenges to adoption

The benefits expected by policy makers, mainly the generation of savings on grocery purchases, were divergent across the early studies and contradictory evidence was published. For example, some researchers indicated that the availability of unit price information does not modify preferences in favor of low unit price items (e.g., McCullough & Padberg, 1971). In contrast, Isakson and Maurizi (1973) using the same data as McCullough and Padberg, found that consumers in fact shift demand towards the low unit price products. Moreover, LaPlaca (1976) found that under conditions of equivalent satisfaction among products, the lower unit priced item is preferred over higher unit priced options. Recent studies dissipate doubts about the benefits of UP. The positive relationship between using unit price and reducing grocery expenditures was tested by several authors (e.g., Méndez, Angola, & Sánchez, 2013; Miyazaki et al., 2000; Yao & Oppewal,

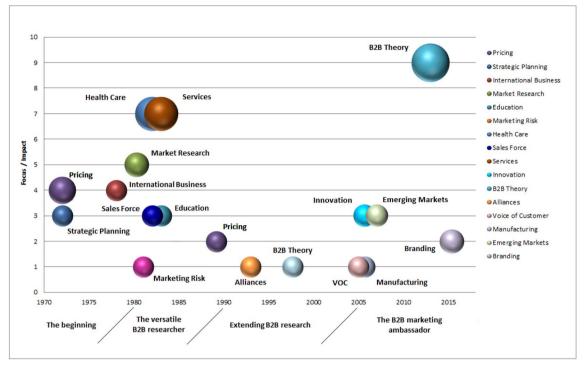


Fig. 1. Research streams by time period.

2016a). Consumer associations, through private studies, have also confirmed this relationship. For instance, the Queensland Consumers Association (2008) found that consumers can save up to 47% when switching to cheaper alternatives using unit price. Another benefit that has been examined in the literature is the reduction of shopping time. Recent studies have largely confirmed the early propositions about UP facilitating the decision making process. Unit prices can reduce up to 40 s per product selection (Mitchell et al., 2003; Miyazaki et al., 2000) and increase accuracy in selecting the cheapest alternative (Mitchell et al., 2003; Yao & Oppewal, 2016b). Finally, UP aids to better recall item prices (Méndez et al., 2013) and improves customers perceptions of task information load (Yao & Oppewal, 2016b).

The main challenges to adopt UP are the provision cost for the retailer and the poor labeling practices at the point of purchase (Bogomolova & Jarratt, 2016). For the retailer, the cost of installing and maintaining a UP system is relatively constant per store, independent of sales volume (Monroe & LaPlaca, 1972). Thus, UP can have a disproportionate effect on smaller retailers and not all companies may survive the cost burden (Bogomolova & Jarratt, 2016). However, researchers have found that there are at least four key benefits from UP for the store: (1) improves inventory control and space management, (2) generates fewer price-marking errors, (3) increases the market share of store brands, and (4) enhances customer satisfaction and store image (Friedman, 1971; Monroe & LaPlaca, 1972; Russo, 1977; Yao & Oppewal, 2016b). Therefore, for both smaller and bigger retailers UP can be a tool to foster better customer relationships and to achieve long-term profitability.

The mere presence of UP can be insufficient to mobilize customers towards the cheapest alternative. Russo, Krieser, and Miyashita (1975) argued that part of the previous null effects of UP on customer behavior were due to how unit prices were displayed on the store shelf. In a field experiment this perspective was satisfactorily tested, finding that inclusion of unit price to shelf tags decreases customer expenditures by 1%, while unit price lists (i.e., a sheet including all unit price information for a product category) increase savings up to 3%. Due to unit price list are not commonly found in current marketplace, Miyazaki et al. (2000) examined how unit price information in shelf

tags is presented in stores and the effects of that granted information. The results of the field study support that the prominence of unit price in the tag has a positive effect on awareness and usage of this information. In addition, Jarratt (2016) found that 50% of German senior consumers perceived lack of legibility and prominence of unit price on shelf tags. More interesting, 87% stated that would use unit price more often if this information was easier to see and 83% indicated that unified price tag design may help the use of unit price more frequently. Therefore, the ease and prominence of unit price information enhances UP adoption by consumers and maximize the benefits for them.

## 3.3. Unit price externality

In general, studies covering UP have worked over the assumption that unit price is only an indicator of product cost (Manning et al., 2003; Monroe & LaPlaca, 1972). However, several researchers have indicated that price can provide other information to the consumer, such as a cue of quality (Dolan & Simon, 1996; Monroe, Rikala, & Somervuori, 2015). In the context of UP, Manning et al. (2003) found that besides the obvious motivations of saving money, customers stated that the use of unit prices is considered a tool for quality assessment. These authors suggest that further research should explore if different customer segments diverge in their goals of unit price information. This is highly relevant in B2B settings because price is determinant to assess the value provided by suppliers. Therefore, B2B customers can use unit prices to evaluate trade-offs between an item cost and its perceived benefits (Manning et al., 2003). All in all, B2B pricing seems to be intrinsically related to some of the possible externalities of UP and it may be less relevant for this type of customers. Next, we explore the ramifications of unit pricing to the B2B arena and how pricing has evolved in this context.

## 4. B2B pricing developments & research propositions

Pricing is an important industrial marketing topic, but is still underresearched and needs further development (Dant & Lapuka, 2008; Liozu & Hinterhuber, 2013). Price decisions are a major concern of B2B firms, it is essential for the sustainability of profits and competitive advantage and company's long-term survival (Burkert, Ivens, Henneberg, & Schradi, 2017; LaPlaca, 1988; Töytäri, Rajala, & Alejandro, 2015). The financial impact of pricing is enormous. On average, a 5% price increase yields a 22% improvement in operating profits (Hinterhuber, 2004) and a 1% boost in price leads to a net income gain of 12% (Dolan & Simon, 1996). Despite companies' open recognition of pricing relevance, only 12% of firms are conducting serious pricing research (Clancy & Shulman, 1994). Moreover, many companies neglect pricing responsibility, "resting" in matching prices with competitors or adjusting reactively to general market behavior (Dolan & Simon, 1996). This lack of proper attention and absence of sophistication in pricing creates a dangerous trap for B2B companies.

### 4.1. Pricing approaches in B2B settings

The main challenge for industrial firms is to understand and capture (part of) the value created for each customer. Companies, such as 3M, have demonstrated that a pricing strategy based on providing and capturing value generates a vantage position over less value-oriented competitors (LaPlaca, 1988; Lindgreen & Wynstra, 2005). Regretfully, many firms have laggard pricing practices based on costs (i.e., costbased pricing) as the primary input and sometimes as the only one. Dolan and Simon (p. 4) indicate that companies persist on applying "inappropriate rules of thumb such as taking a standard mark-up on cost." The focus on cost comes from economic static models, whereas the "rule" for optimal price is equal to the marginal cost per unit. However, various market factors for a product or service are ignored by this rule. These factors include consideration of the competing set of alternatives for the brand in question, fluctuation of these competitive sets across particular customers, interaction effects with those of other elements of the marketing mix (e.g., channels available), development of substitutes, and dynamics over time (Rao, 1984). The next level of pricing development is competition-based pricing, whereas some market inputs are considered. This approach uses predicted or observed price levels of rivals as central source for settings prices and may be appropriate for non-differentiable commodities (Hinterhuber, 2008). Nevertheless, it is unlikely that a product or service can be defined as a "factual" commodity because performance of many product features depends on customer usage (and other internal characteristics) and required levels of service (support) tend to vary across customer segments (or even customer-to-customer). Therefore, industrial vendors might readily alter prices across customers and even can modify prices between succeeding purchases of the same customer (Woodside, 2015; Zhang, Netzer, & Ansari, 2014).

Researchers converge in that a value-based pricing is the overall best approach for B2B offerings (Hinterhuber, 2004, 2008; Töytäri et al., 2015). It does include into analysis the customers' perceived value and their consequently willingness to pay. LaPlaca (1988) offered one of the first conceptualization of this approach (contingency pricing), suggesting the measurement of the economic utility received by the customer from the offering, when it is used under particular conditions. Value-based pricing is a sophisticated but puzzling approach to pricing, because it requires the assessment of perceived value and open bi-directional communication and transparency. Moreover, value needs to be interpreted as context-specific, multi-faceted, and its perception is dynamic through time (Töytäri et al., 2015). Under this approach, customers' willingness to pay is based on the perceived net benefits, implying the deduction of any cost to the customer in process of obtaining the desired benefits, excluding the purchase price. Finally, the customer perceived value is "the difference between the perceived net benefits and price paid." (Töytäri et al., 2015, p. 55). Therefore, B2B customers will prefer suppliers that maximize perceived value in a oneto-one comparison.

#### 4.2. Unit pricing and value-based pricing in B2B settings

Unit pricing is recognized as an important informative tool for customers and generates important benefits for the decision making process. Would these benefits sustain in B2B settings? The relevance of the estimation and communication of value suggests applicability of unit pricing in B2B settings, whether perspective adjustments are embraced. Due to the complexity of value quantification, it is advisable to focus on the most salient value drivers for customers (Anderson, Narus, & Van Rossum, 2006). In general, value is originated by differentiated technical features of tangible product characteristics or customer service support. The main difficulty is to obtain and interpret the data (Hinterhuber, 2008). To discover hidden value and build awareness about customers' preferences, suppliers need to visit and spend time with their customers (McQuarrie, 2008; Töytäri et al., 2015; Zablah, Bellenger, & Johnston, 2004). Verification of the value perceived by customers is required and on-site testing is commonly applied. Sometimes, due to lack of trust, third parties such as laboratories or universities, play a relevant role on "certifying" offerings performance. Unit and value-based pricing need to be fused to facilitate offering comparison from a value perspective rather than nominal price.

### 4.3. Unit value-based pricing and propositions

We propose that applying the value-based pricing theory to unit prices, a new perspective can be developed. For this process has critical importance demonstrating and documenting quantitatively the articulation of value to the customer (Anderson et al., 2006; Hinterhuber, 2004; Töytäri et al., 2015; Töytäri & Rajala, 2015). From previous literature, evidence indicates that the selling process is becoming more complex and there are behavioral issues to be considered in B2B interactions (Anderson & Wynstra, 2010; Monroe et al., 2015; Ritter, Wilkinson, & Johnston, 2004; Woodside, 2015). On the one hand, according to Anderson et al. (2006) three or four offering's features concentrate the attention of industrial customers. On the other hand, the buying center is composed by multiple stakeholders with different interests, generally involving more than three executives (Johnston & Bonoma, 1981; McWilliams, Naumann, & Scott, 1992) as influencers and decision maker. Prospect theory (Kahneman & Tversky, 1979) suggests that separating the benefits increase the utility (value) perceived by customers. In specific, we are acknowledging the framing effects that refer to the way in which a choice, or an option, can be affected by the order or manner in which it is presented to a decision maker or influencer. We define unit value-based pricing as the value quantification (US\$) per standardized unit of measure, articulated from each part of the value proposition of the supplier. We suggest that using unit value-based pricing will create benefits to suppliers and industrial customers. Particularly, we expect that:

**Proposition 1.** Quantifying and communicating the contribution of each key element of the value proposition, in addition to the overall delivered value (\$), will have a positive impact on the customer purchase decision, in comparison with only informing the total value.

**Proposition 2.** Relating and concentrating the communication towards the contribution of a(some) particular element(s) of the value proposition to a pre-qualified stakeholder in the buying center, will increase the chances of make the sale.

**Proposition 3.** Supporting the implementation of unit value-based pricing will contribute to improve the procurement processes of industrial customers, decreasing time consumption and saving money (in the long-haul) per purchase.

**Proposition 4.** The use of big data and marketing analytics will increase the viability of implementing unit value-based pricing.

**Proposition 5.** The use of the internet of things (IoT) will facilitate the

W. Johnston, R. Mora Cortez

implementation of unit value-based pricing.

**Proposition 6.** The simpler the purchase situation (e.g., straight rebuy), the more feasible the implementation of unit value-based pricing.

**Proposition 7.** The smaller the customer buying center, the more feasible the implementation of unit value-based pricing.

**Proposition 8.** The bigger the customer buying center, the more total value is accounted by unit value-based pricing for both buyer and supplier (in comparison with cost-based and competition-based pricing).

**Proposition 9.** The bigger the customer buying center, the less proportional economic value is captured by the supplier while using unit value-based pricing.

#### 4.4. Case study

For example, an international grinding balls company negotiating with a copper mining plant in Australia can illustrate the beneficial output of unit value-based pricing. The buying center (at a level of influencers and decision maker) is composed by (1) mine manager (decision maker), (2) warehouse supervisor, (3) maintenance engineer, and (4) superintendent of processes. The supplier's value proposition involves more reliable delivery times than rivals (97% of punctual controlled deliveries in comparison to 95% of the best competitor), lower levels of broken balls before predicted life expectancy (5% superior to the best competitor), 24/7 technical assistance (in comparison with 8 h only for business days of the best competitor), and lower levels of energy consumption in the mill (13% better in comparison with the best competitor). The average contract is valid for 3 to 4 years, though, the standard period of evaluation is six months because it represents one complete operation cycle of the mill. Further, the standardized measure here is not quantity or weights of grinding balls in view of the supplier assures provision to keep the continuous mill operation and gives a measure of short-term that is appreciated by some stakeholders due to personal bias (Bonoma & Johnston, 1978; Töytäri et al., 2015). Software and digital tools contribute to inventory control and to monitor the performance and throughput of the grinding balls. Therefore, unit value-based pricing suggests evaluate the perceived value by the customer per operation cycle, and during the negotiation process the vendor managed the communication focus as follow: (1) emphasize the total benefit (\$) to the mine manager, separating the overall savings by topic; (2) stress the delivery improvements (in technical and economic terms) to the warehouse supervisor; (3) underline the energy savings and better quality (i.e., lower levels of failure) of the balls to the process superintendent; and (4) accentuate the more flexible and extended assistance (in technical and economic terms) to the maintenance engineer. Finally, the customer decided to work with the supplier under analysis, saving more than \$0.3 (AUS) million per operation cycle and paid a 9.5% premium over the price of the best competitor. Moreover, the buyer included the energy savings as a general parameter to compare suppliers and the contract was signed for a period of 5 years (diminishing the transactional costs versus the standard contract).

#### 5. Concluding remarks

The academic journey of Peter J. LaPlaca commenced in the early 70s decade with a publication about UP, a new phenomenon in the Northeastern area of the United States and currently disseminated over the world. This work influenced more than seventy high quality publications in reputable scholarly journals such as JM and IMM. The UP policy sought to help customers to maximize their return over the investment while shopping, leading to the purchase of the cheapest alternative available, finding inconsistent results in the early studies.

After several years of research there is scientific consensus, UP contributes to B2C decision making, from customer perspective, mainly (1) diminishing the time of choosing an option among a set of alternatives and (2) reducing the cost of the average purchase per category. However, this perspective leaves out an important feature of any offering: the perceived customer value. The idea as a whole is positive and consumers express gratitude, but it leads to "commoditization" and creates new challenges for marketers in order to reach differentiation. This can be analyzed as favorable to the marketing function because indirectly enhance its relevance inside the organization.

In B2B settings, UP without any modification to the approach can be extremely dangerous and even counter-productive for both customers and suppliers. The inclusion of a value-based perspective seems appealing, but it is not exempt of difficulties. On the one hand, (ir)rationality and bias in the procurement process of industrial customers already leads towards the cheapest alternative (nominal cost). On the other hand, suppliers generally lack of sophisticated approaches to customers and struggle with open quantitative comparisons. Moreover, the negotiation processes tend to be formal (e.g., electronic bidding), minimizing human contact which is necessary to increase receptivity and facilitate influence. A value-based perspective requires a relational interaction approach between the buyer and the seller and reaching influential stakeholders (e.g., influencers in the decision making unit) at early stages of the buying process (Töytäri et al., 2015). Taking into account the challenges involved from a value-based approach, we integrated UP and value-based pricing to introduce unit value-based pricing and contribute to B2B pricing theory; entailing two research streams of Peter LaPlaca: UP and contingency pricing. This new approach stresses the relevance of articulating value propositions and separating the economic contribution of each element. Then, the vendor approaches the customer with a directed message, concentrating on the benefits that relate closer to their particular interests.

The present paper sheds light on value-based selling and pricing, offering a new perspective that allows the comparison of alternatives in a simple but robust procedure with a win-win outcome. Communication is key to organizational change towards value-based practices; at the end people are who make decisions. For a broader understanding to the barriers of value-based pricing implementation, please refer to Töytäri et al. (2015). Further research is needed to test the proposed benefits of unit value-based pricing for both B2B customers and suppliers. Literature on B2B pricing is still scant and the future of industrial markets depends on how companies develop value-based exchanges.

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