Tradeoffs in Supplier Attribute Ratings in Supplier Selection

Across Strategic versus Non-Strategic Purchases

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Abstract *Purpose:* This research identifies a customer perspective that is often ignored, neglected, or undervalued in B-to-B sales—the nature of the product itself. The pivot point is whether the product/service desired is strategic (critical to the company's mission) or non-strategic (not critical to the company's mission).

Methodology/Approach: A conjoint analysis was conducted for both types of purchases (strategic and non-strategic), assessing the tradeoffs and espoused preferences of four key attributes involving both the supplier and the product across three performance levels—(1) stability of the supplier, (2) reliability, (3) competitive pricing, and (4) product quality.

Findings: The results indicate that B-to-B customers do make tradeoffs between suppliers based on stability, reliability, pricing, and product quality. The direction of the tradeoffs depends on whether the purchase is a strategic or non-strategic acquisition. The results suggest that suppliers would benefit from understanding the relationship of their products and services to the B-to-B customer's mission when the supplier is deciding how to improve performance.

Research Implications: Too often there is a disconnect between B-to-B sales people and their customers resulting in suppliers failing to reach performance goals. The research focuses on the importance of B-to-B sales people uncovering whether or not the customer considers the nature of the product being considered as strategic or non-strategic to their business. The research helps to explain some of the mixed findings in the supplier selection literature.

Practical Implications: The research points to the fact that customers analyze and make decisions differently depending on the type of product. Additionally, the research highlights the importance to customers of understanding the potential legal and financial risk of suppliers. This is important in that traditionally suppliers tend to focus on product features and benefits in their selling efforts. These results indicate that they should spend significant time discussing factors that illustrate legal and financial risk reduction to the customer of dealing with their companies.

Originality/Value/Contribution: The study offers a new look at an age-old problem of enhancing sales performance through a new lens by considering the nature of the product (strategic versus non-strategic) through the perspective of the customer. The findings help to explain the mixed results of previous research. To date, the nature of the product and tradeoffs of attributes that customers are willing to make depending on that product classification have not been the focus, though the results suggest that understanding customer decision-making through this lens may enhance supplier success.

Keywords *supplier selection; business-to-business marketing; strategic and non-strategic purchases*

Introduction

Business-to-business (B-to-B) customers' selection of suppliers is complex. Decisions are made based on factors related to the supplier's company, as well as to the product/service sought. Certainly supplier selection criteria extends beyond price into areas such as quality of the product and the nature of the supplier's service and delivery. Research has tackled the question of how B-to-B customers make decisions from different angles. Some research on supplier selection has set aside the question of which attributes are important or whether the nature of the purchase may influence selection, and instead focuses on how to reduce the uncertainty of supplier selection in general (cf. Riedl et al. 2013). At the other end of the spectrum, research has treated supplier selection as an optimization problem with any given number of attributes that the firm may use, regardless of the attributes rated or the nature of the purchase (cf. Karande and Chakraborty 2012). However, neither end of the spectrum answers the question of which, and when, supplier performance attributes result in a supplier actually being selected by a B-to-B customer.

This research focuses exclusively on the espoused preferences and tradeoffs in the supplier selection decision and supplier selection criteria deemed important by the purchasing professional. Previous research in marketing demonstrated that purchasing managers have the greatest influence in supplier selection, engineering has the greatest influence in product selection, and senior management has the greatest influence in budget decisions (Hanson 1979; Jackson, Keith and Burdick 1984; Lilien and Wong 1984). We focus on an area of decision-making by purchasing professionals which sheds light on why research on the supplier selection process has been mixed.

We suggest one of the reasons the research results are historically mixed is that most research does not account for a fundamental aspect of the exchange—the fact that B-to-B purchases can be classified by the role of the product in the B-to-B customer's firm. This is the focus of our research—whether a purchase is deemed by the customer has strategic or non-strategic.

In a classic article on industrial purchasing, Webster (1965) divided the buying process into two parallel and related decisions – selection of a supplier and choice of a product. Future research built on Webster's conceptualization that supplier selection was based on knowledge of the market (e.g., Dempsey 1978; Crow and Lindquist 1982) while selection of product was guided by knowledge of the product on technical and economic dimensions (e.g., Bellizzi 1979; McQuiston 1989). While B-to-B purchasing managers spend significant time gathering and assessing information on both suppliers and their products, sales persons often tend to focus on presenting data on their products while sometimes neglecting to elaborate on critical supplier capabilities. Further, sales people often ignore the vast amount of research on both products and suppliers that purchasing professionals conduct on their own before ever having interest in communicating with a sales person. Conceptually, the nature of the product being purchased becomes an important guidepost for the customer.

In their review of the supplier selection literature, Wetzstein et al. (2016, p. 312) note that "Surprisingly, in considering Strategic-SS [Supplier Selection] as an object of research, we haven't found strong definitions but rather initial ideas." The authors continue, "It is worth noting that conceptual frameworks directly targeting Strategic-SS are completely missing in our sample." Research has identified broad conditions for which a supplier may be considered "strategic" such as few suppliers, high switching costs, and a tendency toward long-term contracts (Sucky 2007). However, unknown are the tradeoffs of any criteria that a B-to-B customer might make depending on the nature of the product or service.

If attribute tradeoffs differ based on the role that the product plays in the customer company's mission, the supplier's sales force must ensure speaking to the relevant attributes that influence the final decision. Simply, not all products are equally important to all customers. For example, rebar, or the long (e.g., 3 meters) strip of metal used to maintain the structural integrity of concrete, may have a more strategic application when used to build a hydro-electric dam or power plant. The failure of the structure would cause catastrophic damage. Rebar could also be used to construct small buildings in which the need (and results) is not as strategic. The key is to understand the customer's usage of the product. Because a supplier's products are critical to the supplier's success does not mean that all customers care the same about these products. Intuitively suppliers understand this reality. Yet, in an environment in which "relationships" seem ever-discussed (cf. Grönroos 2017), suppliers may actually overlook a critical point in selling—know the usage of the product in the customer's context.

Supplier Selection Criteria

For suppliers, it is critical to understand which attributes result in a prospective customer selecting their firm over a competitor. Generally, researchers agree that the most important supplier selection criteria are: product quality, delivery, price and service. Dickson (1966) expanded this list to 23 criteria. These 23 continue to appear in the majority of articles on selection. However, there is little agreement on which ones are most important. Weber et al.'s (1991) research determined cost, delivery, quality, and productive capability were most widely used; while Nair, Jayaram, and Das (2015) claim that cost, quality, delivery, flexibility, and innovation are most common. Lastly, Sen et al. (2008) argue that the six main criteria: cost, quality, service, reliability, management and organization, and technology.

Even within a study, results have been inconclusive at times. For example, Verma and Pullman (1998) asked B-to-B manufacturing customers to rank attributes for the purchase of "key components/raw materials" and found that quality was the important supplier selection attribute when B-to-B customers generally describe their preferences. The authors then collected data using an elaborate discrete choice analysis and found that supplier selection was driven by cost and on-time delivery. Other research has found that the financial condition of the supplier and the quality of the supplier's management team are vital to selection, as compared to geography of the supplier and repair service which were not dominate factors (Ng 2010). Mixed results on which factors are key have been found indicate the complexity of the customer's decision-making process.

In some cases, to determine what drives supplier selection, researchers have gone beyond a focus on determining the attributes of importance to what may influence the weight of these attributes. For example, Ross and Jayaraman (2009) coupled assumptions of price sensitivity and the degree of product substitutability with considerations of whether or not the product might be considered strategic in nature. Yet, for many strategic purchases the assumption of substitutability may not hold, leaving unclear what attributes may drive those decisions. Other research has focused on how the tier of the supplier (first-tier, second-tier, etc.) may influence attribute importance, finding in the automotive industry that some attributes (e.g., consistency of quality and delivery, reliability, price, service, and flexibility) were rated the same importance regardless of the tier of supplier, and for other attributes (finances and technological capabilities) tier mattered (Choi and Hartley 1996).

These examinations cause pause to question whether or not a fundamental issue of the customer's perspective of the strategic nature of the product might in fact alter the trade-offs in supplier selection attributes. While substantial research has focused on the evolving strategic role of the purchasing function (cf. Carr and Smeltzer 1997; Carter and Narasimhan 1996; Chen et al. 2004; Ellram and Carr 1994; Paulraj et al. 2006), no research has focused exclusively on the strategic nature of the purchase itself as the driver of supplier selection attribute ratings. We examine this role.

Strategic and Non-Strategic Purchases

Definitions have varied of the differences between strategic and non-strategic purchases. Table 1 presents illustrative definitions from the literature. These definitions of strategic and non-strategic products in part vary from tactical to strategic. Some definitions (e.g., Gross et al. 1993) focused on the purchasing cost of products to differentiate strategic from non-strategic products. However, for suppliers the challenge is that a product may be of low cost and/or bought in low quantities by the buyer, but it could be an essential part of the company's final product. Kraljic (1983) takes a different approach to distinguishing strategic and non-strategic purchasing by focusing on the impact on profitability and degree of risk of the purchase. Sucky (2007) builds on this distinction by adding the notion of market complexity. Maltz and Elram (2000) bring into the discussion a focus on the importance of the product to the buying firm. Finally, Anderson, Narus, and Wouters (2014) focus on the degree to which the supplier's products help the buying differentiate their final offerings. These definitions illustrate a conceptual progression from cost to differentiation as a mode of distinguishing strategic and non-strategic offerings.

Throughout this literature, it is generally agreed that there is an element of mission-critical to strategic purchases as compared to non-strategic purchases. These roles influence the degree of risk of the purchase and the degree to which the buyer and supplier may need to interact. Thus, these are not all price-based decisions. For suppliers, the key is to shift from thinking of their products in terms of what the products are in terms of physical characteristics, etc. to thinking about what the products do for the customer (e.g., applications, value-add, problems solved).

Scholars in sales and marketing tend to describe what is being sold in terms of physical features, complexity, technology, costs, and price (McQuistion 1989). On the other hand, those in operations and supply chain management tend to evaluate those same items in terms of their role in a firm's value-adding processes, distinguishing between strategic and non-strategic purchases (Kraljic 1983; Maltz and Ellram 2000). "Strategic purchases are those that a business has decided contribute significantly to differentiate its offerings" (Anderson, Narus, and Wouters 2014, p. 5). Although they may be purchased in large quantities, non-strategic purchases do not lead to differentiation. While these discrepancies in purchasing and sales perspectives may appear trivial they have some important consequences.

Purchasing managers routinely conduct detailed spend analyses in which they assess the totality of items their companies purchase both in terms of units and monetary value. Results are typically plotted on a chart with item numbers on the x-axis and either monetary or units purchased or a subjective importance rating for each item on the y-axis. The resulting chart often resembles a "Pareto Distribution" (e.g., 80/20 Rule). Based on an in depth evaluation, they designate the extreme left side of the chart with the greatest y-ordinates (often 20% of items) as strategic purchases and the remaining "long-tail" (often 80% of items) as non-strategic purchases.

Given the time pressures place on purchasing departments due to the anemic hiring of new personnel mentioned above, they frequently prioritize and allocate significant resources and employee time and effort toward strategic purchases. In these instances, frequent sales calls, joint development, and long-term collaborate relationships are welcomed. Conversely, minimal resources, time, and effort are expended upon non-strategic purchases. Departments strive to make such acquisitions as painless and quick as possible. Non-strategic purchases are increasingly made via online e-commerce sites.

B-to-B sales and marketing organizations thus need at least two types of efforts – traditional, face-to-face personal selling for strategic purchases and digital marketing and order-taking for non-strategic purchases. While this may seem straightforward, we have found that some supplier personnel are not sure whether their products are strategic or non-strategic. Making this designation more difficult is the fact that the same item may be strategic for one customer firm and non-strategic for another.

A battery of work since Dickson's (1966) foundational research in purchasing has suggested that the more important factors in overall supplier selection involve price, quality and delivery (cf. Cheraghi et al. 2004; Weber et al. 1991; Wilson 1994). Decades ago the Kraljic Matrix (1983) suggested that companies examine their purchases along two dimensions: supply risk and profit impact. The resulting matrix had implications for thinking through the time spent on the decision-making process through monitoring suppliers to assess potential risk. For example, Kraljic suggested that B-to-B customers should spend most of their time thinking about the sourcing of strategic items (rather than non-critical items, etc.). The rationale is that for strategic purchases, B-to-B customers recognize that the relationship may be long-term thus non-price factors become increasingly important as the purchase becomes more essential to the firm.

For strategic purchases, the risk of selecting an ill-performing supplier impacts the mission of the firm, so factors relating to the supplier itself become crucial, such as the stability of supplier, as well the supplier’s ability to provide reliable quality, service, and delivery. In addition, the quality of the product for these strategic purchases takes on a greater role, relative to price, because of the potential negative ripple effects of product/service failure to the mission of the firm. For strategic purchases, while competitive pricing is among key attributes to evaluate suppliers, the willingness to tradeoff on price recognizes the long-term gains that can be accomplished with a more stable supplier with higher quality products that have more reliable service and delivery. The gains can take the form of greater innovativeness, higher levels of cooperation, and better marketplace intelligence. For example, metal and alloy supplier Goodfellow helped companies in the aerospace industry to determine new ways to reach the objectives of environmental protection regulations (CMM International 2019). Tortilla manufacturer Masienda was helped by suppliers of corn to come up with new ways to reduce fillers and preservatives of their product to meet changing customer preferences (Hartt 2019). Recently, ON Semiconductor supplier and 3M revealed new ideas of their partnership to use sensor-technology that is needed as automated car technology evolves (3M 2019).

For non-strategic purchases, the risk of damage to the company’s mission is far lower. In research on the outsourcing of non-core services, the lack of centrality of the service to the company’s mission has been suggested to influence choice because the “decision may be price driven” (Maltz and Ellram 2000, p. 84). This alludes to the notion that different attributes, namely price for non-strategic purchases, guide purchase decisions. While product quality and stability of the supplier are important attributes for consideration, for non-strategic products, a better price relative to quality and stability, offers greater gains because the products are in the periphery of the company mission. Overall, we hypothesize the following:

Hypothesis 1: For strategic purchases, B-to-B customers **are willing** to tradeoff competitive pricing in exchange for increased (a) stability, (b) reliability, and (c) product quality.

Hypothesis 2: For non-strategic purchases, B-to-B customers **are not willing** to tradeoff competitive pricing for any other attribute rating.

Research Method

The research goal of this work is to investigate the tradeoffs in supplier performance attributes that B-to-B customers are willing to make when selecting a supplier. Specifically, the goal is to investigate if those tradeoffs differ depending on the role of the product in the B-to-B customer's firm: a strategic purchase (a purchase that is critically important to a company's mission) versus a non-strategic purchase (a purchase that is not considered essential to a company's mission). For example, a B-to-B customer may prefer a higher priced, but more reliable, supplier when making a strategic purchase. However, when making a non-strategic purchase, he or she may be willing to select a less reliable supplier because it is cheaper and not critical to the company's mission. These two fundamental categories of purchases are rarely included in the same work on supplier selection.

To explore how these tradeoffs are made, first the literature was assessed and 97 B-to-B customers were interviewed to understand the contemporary attributes that are key to supplier selection. The aim of the literature review was to determine the key supplier selection attributes that are typically the focus of exploration. The interviews were conducted by telephone with B-to-B customers across industries. The interviews involved a host of questions about contemporary B-to-B decision-making. Our goal with the interviews was to assess whether the historic factors in academic research on supplier selection mirrored modern purchasing concerns.

A key insight from the interviews was that B-to-B customers investigated the stability of a supplier in terms of the long-term finances of the supplier and any legal risk that might loom. This attribute that influenced supplier selection was in addition to traditional attributes of reliability, pricing and quality. The majority of the purchasing professionals survived the economic recession and this historic time prompted their future, and ongoing, examination of the supplier's stability.

Using those top attributes, conjoint analysis was used to assess the tradeoffs of attributes (Green and Srinivasan 1978). Key performance attributes for supplier selection and their tradeoffs were the focus, recognizing that a variety of factors may come into play for the decision of which supplier to use. Four attributes were selected from myriad potential attributes based on the literature and discussions with industry professionals (Kappe et al. 2017).

A survey was created in which B-to-B customers examined a series of pairs of suppliers and were asked in each case to select the more preferred supplier based on each supplier's performance scores. See Figure 1 for a screenshot of one of the choice tasks that respondents viewed.

The focal attributes included assessments of stability, reliability, pricing, and quality of the supplier. Specifically, the performance scores for each supplier were based on four categories of attributes: 1) stability of supplier, 2) reliability, 3) competitive pricing, and 4) product quality.

Each of these attributes projected a holistic view of the category while making the selection task in the conjoint analysis manageable. We recognized that on one hand stating "reliability" (for example) might leave a respondent wondering if that was reliability specific to the product quality or to the service provided by the supplier. On the other hand, stating “reliability of quality, service, and delivery” opened the challenge of multidimensionality. We also were concerned that more than four or five attributes would create cognitive fatigue of respondents who were engaged already in eight choice tasks.

In the survey instructions, an acknowledgment was made that purchasing decisions are complex, but for research purposes respondents were asked to consider only these four attributes. Additionally, the last line of the introductory comments in which we stated, “Higher performance scores indicate better stability, reliability, pricing, and quality” was designed to highlight the unidimensional nature of the constructs.

A five-star rating system was used to operationalized three performance levels: 1) low (one star), 2) medium (three star), and 3) high (five star) performance scores. Higher performance scores indicated better supplier stability, reliability, pricing, and product quality. Then an orthogonal array was created to reduce the number of attribute/level combinations from 81 for a full factorial design of four attributes with three levels ($3 \times 3 \times 3 \times 3$) to eight. Eight choice tasks was selected as a reasonable number of tasks that would reduce the risk of respondent fatigue and still allow proper conjoint analysis.

We pre-tested the instrument with 30 purchasing professionals (15 for the survey focusing on non-strategic purchases and 15 for the survey focusing on strategic purchases). Our purpose of pre-testing the instrument was to determine if the design (star-system, etc.) and administration process (length, etc.) were suitable for B-to-B purchasing professionals. All design and administrative procedures were executed smoothly.

For the main study, email addresses were obtained from purchasing professional trade associations and from purchasing professionals who had participated in the authors’ B-to-B research over the years. An initial wave of surveys was emailed to 2,000 purchasing professionals; 155 responded. A second wave of surveys was sent to a separate collection of 2,100 purchasing professionals; 158 responded. Respondents were randomly assigned to a strategic or non-strategic purchase condition across both waves. Respondents were not compensated, but were offered a summary of the research results. The total sample size was 313 purchasing professionals. The overall response rate was 7.6 percent. A wide-variety of industries were represented, with 25 percent manufacturing and the rest services. The average response time to complete the entire survey was 6.4 minutes.

To mitigate non-response bias, we (a) included only actual purchasing professionals in our email list, (b) followed-up with a reminder email and appeal for participation, and (c) created a well-designed survey of appropriate length. After the data was collected, we compared the responses of those in the first wave of response to those in the second wave of response (a few weeks later). We found no statistically significant differences.

Data Analysis

Multinomial logit was used to analyze the data. The results for the strategic purchase condition are provided in Table 2a. All else being equal, higher levels of stability of supplier (χ^2 [df = 2] likelihood ratio test = 114.04; p-value < .00); reliability (χ^2 [df = 2] likelihood ratio test = 384.92; p-value < .00); and product quality (χ^2 [df = 2] likelihood ratio test = 379.36; p-value < .00) are more preferred than lower levels, and are statistically significant when making strategic purchasing decisions. All else being equal, higher levels of competitive pricing (χ^2 [df = 2] likelihood ratio test = 5.76; p-value = 0.06) are more preferred than lower levels, but are not statistically significant when making strategic purchase decisions.

These results support Hypothesis 1 that when making strategic purchase decisions, B-to-B customers are willing to make tradeoffs between suppliers based on stability, reliability, pricing, and product quality. Product quality is the most important supplier attribute; competitive pricing is the least.

The results for the non-strategic purchase condition are provided in Table 2b. Again, all else being equal, higher levels of stability of supplier (χ^2 [df = 2] likelihood ratio test = 89.01; p-value < .00); reliability (χ^2 [df = 2] likelihood ratio test = 230.79; p-value < .00); and product quality (χ^2 [df = 2] likelihood ratio test = 267.18; p-value < .00) are more preferred than lower levels, and are statistically significant when making non-strategic purchasing decisions.

All else being equal, higher levels of competitive pricing are more preferred than lower levels, but unlike strategic purchases, are statistically significant when making non-strategic purchase decisions (χ^2 [df = 2] likelihood ratio test = 142.61; p-value < .00).

These results provide support for Hypothesis 2 that B-to-B customers are not willing to tradeoff competitive pricing for other attributes when making non-strategic purchase decisions. However, all four attributes, including price, are taken into consideration. Also, the relative importance of the most and least important attributes are reversed. Competitive pricing is the most important supplier attribute and product quality the least when making non-strategic purchases.

See Figure 2 for a side-by-side comparison of the multinomial logit results for strategic versus non-strategic purchases. See Figure 3 for a side-by-side comparison of the relative importance of supplier attributes strategic versus non-strategic purchases.

Discussion

This is a first study to specifically focus contrasting supplier selection attributes between strategic and non-strategic purchases. By doing so, some of the mixed results found in previous studies can be better understood. The results indicate that B-to-B customers do make tradeoffs between suppliers based on stability, reliability, pricing, and product quality. These tradeoffs tend to hold for both strategic and non-strategic purchase decisions, but with important differences. For strategic purchases, product quality and competitive pricing are the most, and least, important attributes, respectively. For non-strategic purchases, these attributes are flipped with competitive pricing the most important attribute and product quality the least.

Suppliers should be able to use these distinctions to their advantage. Suppliers often fall into the trap of describing their products in terms of "what it is" (e.g., physical characteristics, complexity, nature of technology); however, customers evaluate products in term of "what it does" (e.g., application, value provided). This can result in miscommunication, and often customer disinterest. For example, rebar is a three-meter, spaghetti-shaped, strip of steel used in construction. Most would consider this a commodity. However, to a major construction company (e.g., Bechtel), rebar is an essential product in building skyscrapers and highways. Thus, it is considered strategic from that particular customer's perspective. On the other hand, a laptop is highly technical product. But because the product has become so ubiquitous, many companies spend only minimal time evaluating alternatives, considering the product to be non-strategic. Suppliers often consider their products "strategic" when in fact this is not the case as perceived by the customer. This leads suppliers to apply the wrong selling and marketing approaches. Typically, involving too much effort, technical and economic explanations and resources. Further adding to the challenges for suppliers, is that a product may be considered strategic by one customer and non-strategic by another. Suppliers would benefit from thinking about segmentation based on the customers' perceptions of the product as either strategic or non-strategic, thus allowing suppliers to emphasize the attributes of interest to the customer.

By determining the role of the product in the B-to-B customer's firm (critical or non-critical to a company's mission), a supplier can adjust his or her attribute mix accordingly. For example, if a supplier knows a purchase is critically important to a company's mission, he or she should focus on product quality and be less concerned about being competitively priced. The supplier should devote more financial resources to improving product quality and be less concerned about the resulting increase in product costs. Increases in quality improvement costs can be passed on to the purchasing company. B-to-B customers are willing to make price/quality tradeoffs, and will pay more for better product quality when making strategic purchases.

If a supplier knows a purchase is not considered essential to the customer company's mission, he or she should focus on competitive pricing and be less concerned about product quality. Further, the customer may prefer simpler messaging and online purchasing options. More financial resources should be devoted to cost cutting with less concern about quality. B-to-B customers are also willing to make price/quality tradeoffs in the opposite direction, and will accept lower product quality for non-essential purchases if they can save money by doing so. Too often suppliers fall into the trap of acting as if all of their offerings are on par with the other decisions that a buyer makes. However, this research suggests that suppliers might be more successful by going back to a fundamental distinction that the customer makes about purchases relative to the company's mission.

Implications

Our research offers a warning for suppliers, both of strategic and non-strategic products/services, to understand which attributes matter most to customers. Our research suggests that supplies must understand the role of the product in the B-to-B customer's firm. Certainly B-to-B customers when considering strategic purchases are not indifferent to price.

They are willing to make tradeoffs such that they acquire a better quality product from a more reliable and stable supplier.

For suppliers of customers for which their products are non-strategic to the customer's mission, our results suggest that higher quality, stability or reliability of the supplier does not compensate for pricing that is not competitive. For these suppliers, they may find investments useful in streamlining their own supply chain and finding cost-reduction mechanisms for their own businesses that can reduce overall costs and help to improve the price of their products. This research would suggest that suppliers of non-strategic products must carefully consider which investments to make in services such as enhanced order tracking or product innovation, for example, if these add to costs (which ultimately will force up product pricing). The results from our research suggest that the supplier's value proposition should vary based on whether or no the product is deemed strategic or non-strategic by the customer.

Additionally, suppliers of non-strategic products may want to consider if any baseline of quality is assumed, in particular for products for which a formal review or rating by other customers is available. For those products, understanding any baseline quality assumption is important to confirm the supplier's products conform to this assumption. Suppliers of strategic products, however, if exclusively focusing on how to reduce costs, may miss opportunities to spend resources on product innovation as it relates to quality improvements.

Our research also has implications for researchers on supplier selection and supplier evaluation. The mixed results of previous research in these areas may be the result of not accounting for a primary category of products/services—that of the product/services' strategic importance to the firm. Without determining the nature of the purchase, the results of ranking attributes used in supplier selection and evaluation may be skewed. While every product/service is important to the supplier who provides it, every product/service does not, obviously, have the same degree of strategic importance to the customer. Underestimating this factor could cause suppliers to misallocate resources and result in failed attempts to grow business.

Limitations and future research

The focus of this research was on specific performance attributes and the tradeoffs B-to-B customers were willing to make depending on whether or not the purchase was strategic or non-strategic. We defined a strategic product as a purchase that is considered essential to the mission of the buyer's company, and considered this operationally equivalent to idea that a strategic purchase ultimately helps the firm differentiate itself from competitors. However, there may be products that are critical to production, for example, but not essential for differentiation. This lends itself to future research considering whether or not there is a continuum of the idea of "strategic" purchases that may have differing levels of influence.

Additionally, other factors, such a level of expenditure and degree of experience in the category, could also influence the ratings. Further, there may be mitigating factors, such the supplier's size, time in business or geographic location, that further influence the tradeoffs that B-to-B customers are willing to make. While our interests were in the tradeoffs in general between strategic and non-strategic purchases, these other factors could be examined in future research.

While our measures of stability and reliability in the conjoint design were designed to assess the holistic sense of stability and reliability by respondents, an argument could be made that these measures are in fact multidimensional. The terminology and specificity of the language was guided by purchasing professionals, yet it is unknown whether legal or financial stability (for example) might drive decisions separately in different ways. This is a limitation of the design. Future research might consider measuring each sub-attribute of stability and reliability separately to determine if there are any differing effects.

While the conjoint design employed attempts to mirror tradeoffs that actually exist in the marketplace and accounts for heterogeneous “tastes”, the analysis still is an incomplete substitute for actual buyer behavior. Our design addressed this concern by (a) using actual B-to-B purchasing professionals, (b) using critical dimensions actually used by purchasing professionals to decide upon which suppliers to select, (c) employing a recognizable rating system (the star ratings), and (d) discussing the design with B-to-B professionals to confirm the realistic nature of the language. However, actual buying behavior was not captured by this design. There is every-ready the concern that actual behavior, even with the same tradeoffs, may vary from espoused preferences, thus, future research would be useful on actual B-to-B buying behavior.

All of the data in the comparisons presented to respondents in this study were quantitative (e.g., 1 out of 5 stars). Unknown is how these quantitative measures, if coupled with qualitative comments from previous customers, may shape the resulting tradeoffs. While the B-to-B marketplace is trailing the B2C space in the prevalence of online reviews that may be available for customers, there are a growing number of sites establishing themselves as the location for B-to-B customers to seek additional comments alongside quantitative ratings. Sites such as VendOp exist for customers seeking to evaluate manufacturers and G2 Crowd for those assessing different software providers. These sites allow written commentary and quantitative ratings on suppliers that customers may view when determining a supplier from which to purchase. Future research is needed to determine if qualitative comments may shift the nature of tradeoffs that are made when purely quantitative data on a supplier is available.

Figure 1 Introductory comments to the survey and example of the choice task[1]

Introductory comments to the survey:

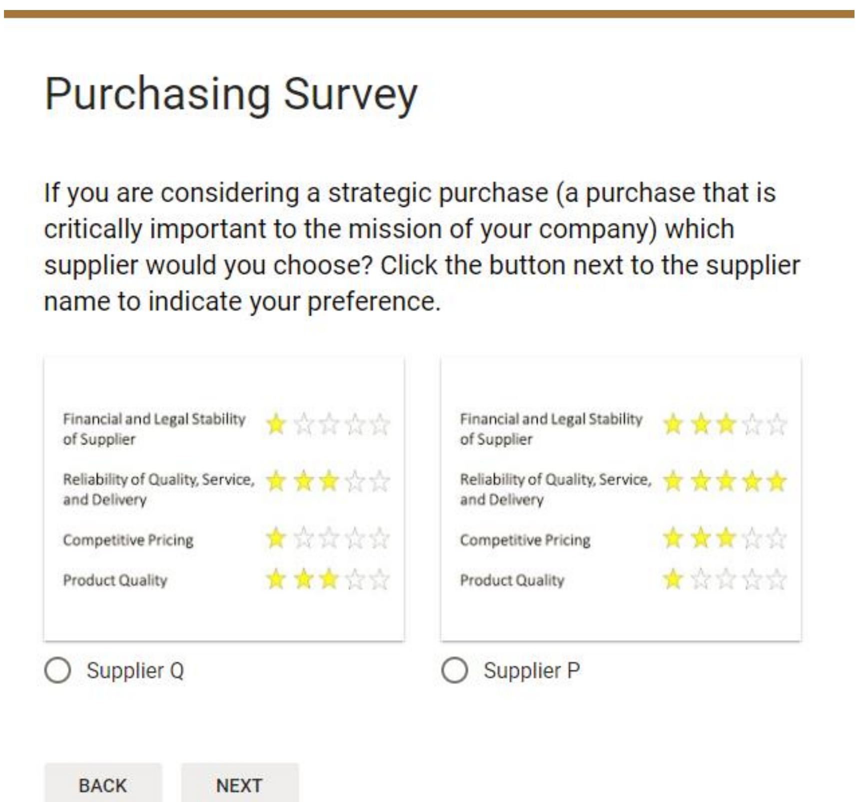
"In this survey, you will be asked to choose between a series of pairs of suppliers based on their performance scores.

We understand purchasing decisions are complex, but for research purposes we ask that you consider only four factors:

Financial and Legal Stability of Supplier
Reliability of Quality, Service, and Delivery
Competitive Pricing
Product Quality

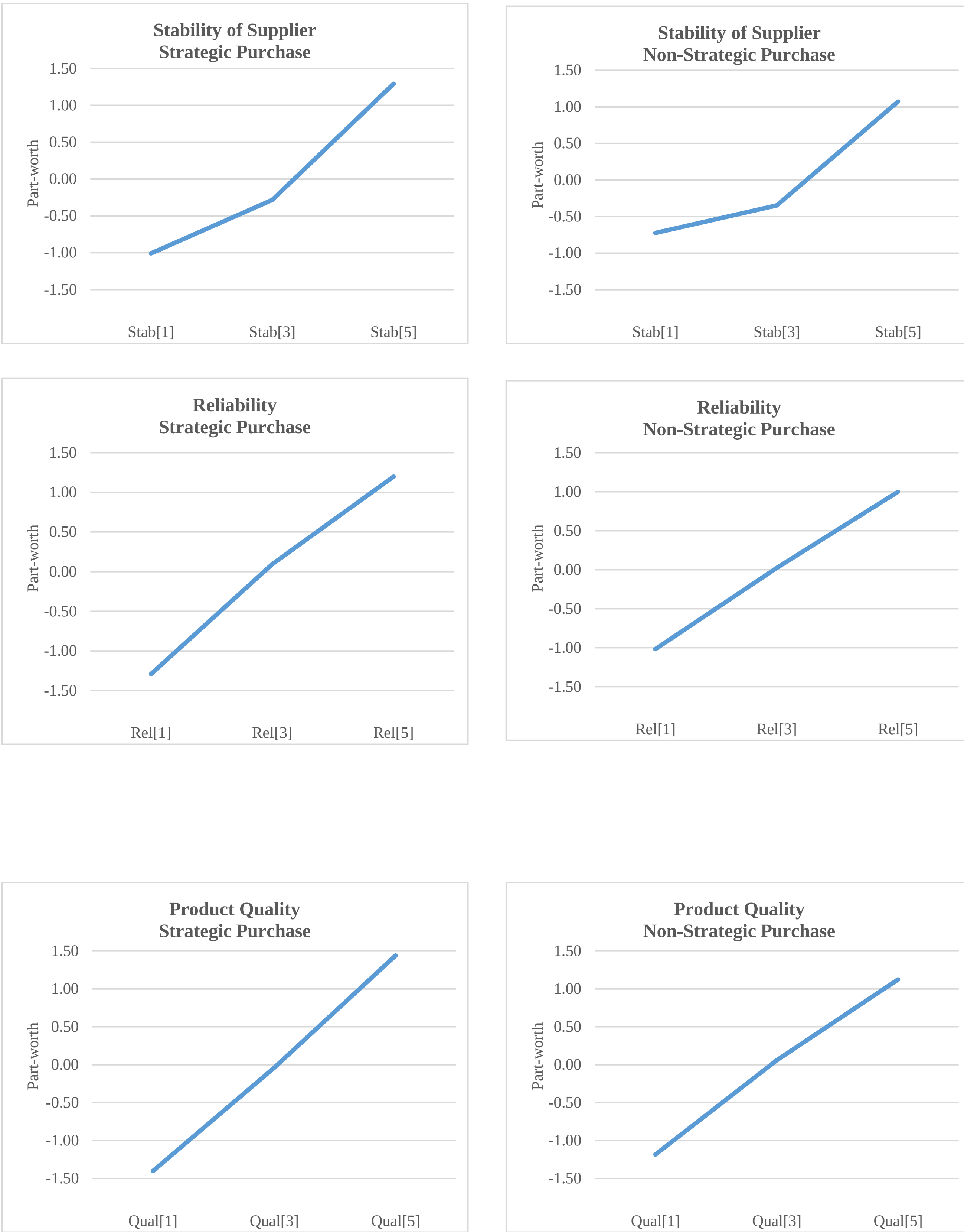
Higher performance scores indicate better stability, reliability, pricing, and quality."

(The next screen appeared as displayed below.)



[1] Interviews with purchasing professionals about the design indicated that their concerns of stability of the supplier were of the businesses' ability to exist in the long-run, devoid of financial and legal challenges. Additionally, purchasing professionals thought of reliability holistically, incorporating the reliability not only of the product quality, but also of the service offered and delivery provided.

Figure 2 Multinomial logit results for strategic versus non-strategic purchases



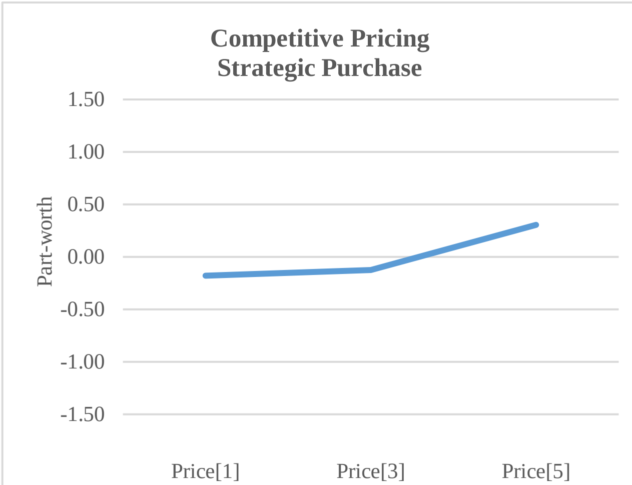
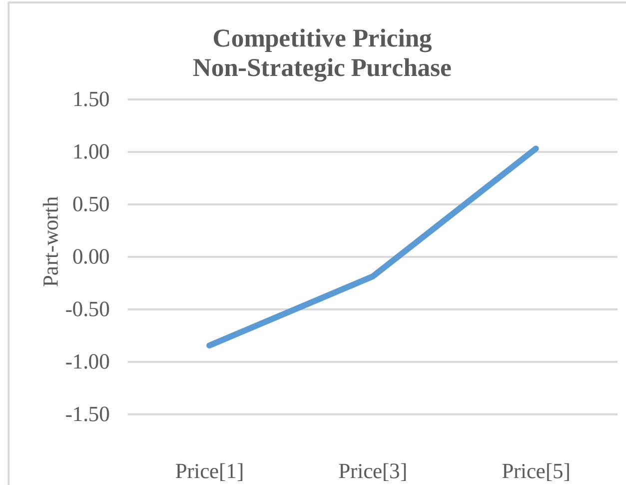

Competitive Pricing
Strategic Purchase
1.50
1.00
0.50
0.00
-0.50
-1.00
-1.50
Part-worth
Price[1]
Price[3]
Price[5]

Competitive Pricing
Non-Strategic Purchase
1.50
1.00
0.50
0.00
-0.50
-1.00
-1.50
Part-worth
Price[1]
Price[3]
Price[5]

Figure 3 Attribute relative importance for strategic versus non-strategic purchases

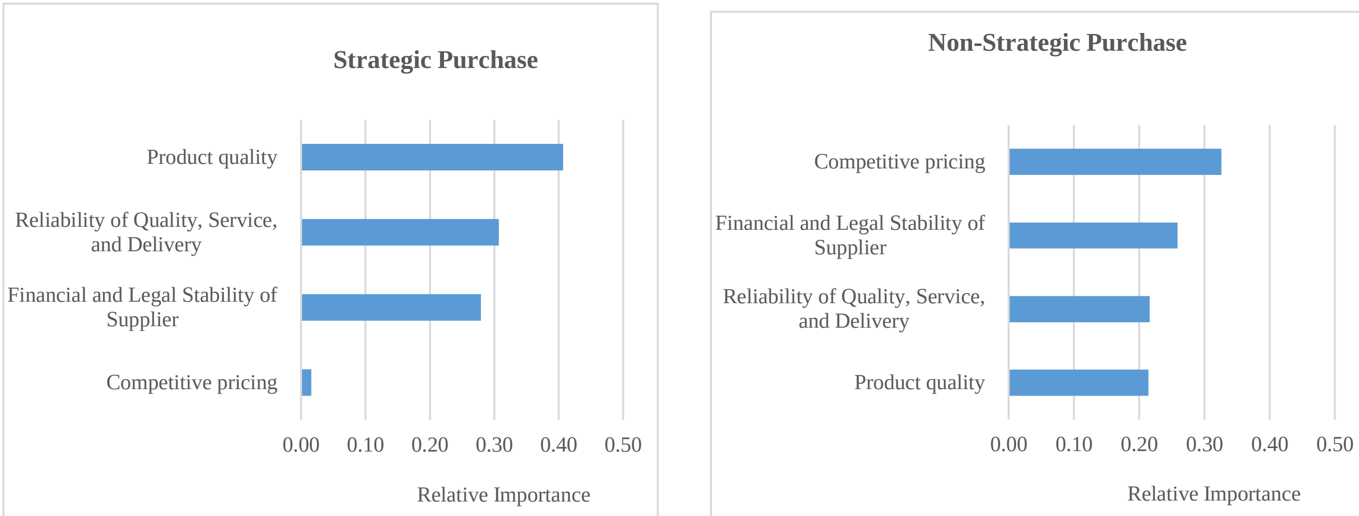


Table 1 Illustrative definitions of strategic and non-strategic purchases

Strategic	Non-strategic	Contribution	Authors
"represent major costs for the company or that are vital to its competitive advantage"	na	Focused on cost of acquiring the product to determine the product's strategic nature	Gross et al. (1993, p. 155)
"high profit impact, high supply risk" "value added by product line, the percentage of raw materials in total costs and their impact on profitability"	"low profit impact, low supply risk" (noncritical)	Emphasized the impact on profitability and risk as a way to categorize products	Kraljic (1983, p. 110, 112)
"services with high supply risk, high profit impact, and high market complexity"	na	Continued focus on profit and risk, with the addition of the degree of market complexity	Sucky (2007, p. 3639)
"Certain goods or services are considered essential or strategic in terms of their importance to the mission of the organization" "higher level of asset specificity" "important to the manufacturing process and rare"	"Certain purchased items are not considered essential to the mission of an organization"	Focused on the overall importance of the product to the buying company	Maltz and Ellram (2000, p. 73, 77)
"those that a business has decided contribute significantly to differentiating its offerings"	na	Shifted the emphasis to marketing and how the buying firm may use the products bought to help differentiate its offerings	Anderson, Narus, and Wouters (2014, p. 5)

Table 2a Strategic purchase multinomial logit [2]

Attribute[Level]	Parameter Estimate
Stab[1]	-1.01
Stab[3]	-0.28
Stab[5]	1.29
Rel[1]	-1.29
Rel[3]	0.09
Rel[5]	1.20
Price[1]	-0.18
Price[3]	-0.13
Price[5]	0.31
Qual[1]	-1.40
Qual[3]	-0.04
Qual[5]	1.44

Table 2b Non-strategic purchase multinomial logit[1]

Attribute[Level]	Parameter Estimate
Stab[1]	-0.72
Stab[3]	-0.35
Stab[5]	1.07
Rel[1]	-1.02
Rel[3]	0.02
Rel[5]	1.00
Price[1]	-0.84
Price[3]	-0.19
Price[5]	1.03
Qual[1]	-1.18
Qual[3]	0.06
Qual[5]	1.12

[2] Stab = Stability
Rel = Reliability
Price = Competitive pricing
Qual = Product quality
Performance levels 1 (low), 2 (medium), or 3 (high) are in brackets.

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Implications for Business Marketing Practice

Our research helps to reconcile a disconnect that often exists between B-to-B sales people and their customers. The divide can result in suppliers failing to reach performance goals. We identify a customer perspective that B-to-B sales persons either ignore, neglect, or undervalue. Central to understanding how customers make decisions is knowing whether a customer considers a purchase as strategic or non-strategic.

This research is the first to specifically focus on the attribute tradeoffs that customers are willing to make when selecting a supplier depending on whether a purchase is considered, by the customer not the supplier, as strategic or non-strategic. The results indicate that B-to-B customers do make tradeoffs between suppliers based on stability, reliability, pricing, and product quality. These tradeoffs tend to hold for both strategic and non-strategic purchase decisions, but with important differences. For strategic purchases, product quality and competitive pricing are the most, and least, important attributes, respectively. For non-strategic purchases, these attributes are flipped with competitive pricing the most important attribute and product quality the least.

Suppliers should be able to use these information requirements and processes identified to their advantage. By determining the role of the product in the B-to-B customer's firm (critical or non-critical to a company's mission), a supplier can adjust his or her attribute mix accordingly. For example, if a supplier knows a purchase is critically important to a company's mission, he or she should focus on product quality and be less concerned about being competitively priced. The supplier should devote more financial resources to improving product quality and be less concerned about the resulting increase in product costs. B-to-B customers are willing to make price/quality tradeoffs, and will pay more for better product quality when making strategic purchases. However, there must be a legitimate quality advantage that lends itself to enhance the customer's final product.

If a supplier knows that a purchase is not considered essential to the customer company's mission, he or she should focus on competitive pricing and be less concerned about product quality. More financial resources should be devoted to cost cutting with less concern about quality. B-to-B customers are willing to make price/quality tradeoffs in the opposite direction for non-strategic purchases, and will accept lower product quality for non-essential purchases if they can save money by doing so. Too often suppliers fall into the trap of acting as if all of their offerings are on par with the other buying decisions that a buyer makes. However, this research suggests that suppliers might be more successful by going back to a fundamental distinction that the customer makes about purchases relative to the company's mission.

Our research offers a warning for suppliers, both of strategic and non-strategic products/services, to understand which attributes matter most to customers. Our research suggests that supplies must understand the role of the product in the B-to-B customer's firm. Certainly B-to-B customers when considering strategic purchases are not indifferent to price. They are willing to make tradeoffs such that they acquire a better quality product from a more reliable and stable supplier.

For suppliers of customers for which their products are non-strategic to the customer's mission, our results suggest that higher quality, stability or reliability of the supplier does not compensate for pricing that is not competitive. For these suppliers, they may find investments useful in streamlining their own supply chain and finding cost-reduction mechanisms for their own businesses that can reduce overall costs and help to improve the price of their products. This research would suggest that suppliers of non-strategic products may need to carefully consider whether efforts to significantly enhance order tracking or product innovation, for example, are worth the investment if these add to costs (which ultimately will force up product pricing). Suppliers of strategic products, however, if exclusively focusing on how to reduce costs, may miss opportunities to spend resources on product innovation as it relates to quality improvements.

The mixed results of previous research in these areas may be the result of not accounting for the degree of the product's strategic importance to the customer. Without determining the nature of the purchase, the results of ranking attributes used in supplier selection and evaluation may be skewed. While every product/service is important to the supplier who provides it, every product/service does not, obviously, have the same degree of strategic importance to the customer. Underestimating this factor could cause suppliers to misallocate resources and result in failed attempts to grow business. As B-to-B customers have an amplified use of available technology to search for new market trends and better investigate products and services before a supplier is even contacted, it becomes more and more important for suppliers to understand the decision-making cycle and touchpoints of the customer journey in which the supplier may interject information that customers deem critical.