

## Outcome versus process value in service delivery

Article (Accepted Version)

Luu, Ngoc, Hau, Le, Ngo, Liem, Bucic, Tania and Cuong, Pham (2016) Outcome versus process value in service delivery. *Journal of Services Marketing*, 30 (6). pp. 630-642. ISSN 0887-6045

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**Outcome versus Process Value in Service Delivery**

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|------------------|---|
| Journal:         | <i>Journal of Services Marketing</i>                                  |
| Manuscript ID    | JSM-12-2014-0410.R2   |
| Manuscript Type: | Article   |
| Keywords:        | Process value, Outcome value, Relationship strength, Customer loyalty |
|                  |   |

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## Outcome versus Process Value in Service Delivery

### Abstract

**Purpose:** This study is embedded in social exchange and transaction cost theories. The objective is twofold: First, to compare the relative importance of process value and outcome value in building affective and cognitive relationship strength; and second, to compare the relative effects of each type of relationship strength on attitudinal and behavioral loyalty.

**Design/methodology/approach:** This empirical study features a quantitative approach. The sample comprises 167 business-to-business (B2B) customers of a large transportation and logistics company in Vietnam.

**Findings:** Process value and outcome value have different effects on affective relationship strength: The effect of process value is greater than that of outcome value. In addition, cognitive strength has a stronger impact on both attitudinal and behavioral loyalty than affective strength.

**Research limitations/implications:** These insights extend extant literature regarding the process and outcome components of the service assessment. Further studies also should employ a cross-industry, cross-country sample to examine the potential moderating effects of country- or industry-specific factors. These findings show B2B managers how to make appropriate resource allocation and investment decisions to enhance relationship strength and resulting customer loyalty.

**Originality/value:** To clarify the links among customer value, relationship strength and customer loyalty, this study examines the relative importance of rational and non-rational factors (i.e., process value vs. outcome value; affective strength vs. cognitive strength) for relationship performance. Unlike most prior research, this study is set in the B2B context of a developing country.

**Keywords:** *Process value, Outcome value, Relationship strength, Customer loyalty*

**Article classification:** *Research Paper*

## Introduction

The importance of both outcome and process aspects of service delivery is clearly evident in the on-going scholarly interest devoted to these aspects (Grönroos, 1982). However, diverse studies yield competing, inconclusive findings about the relative significance of these components of service provision (Loonam and O'Loughlin, 2008, Bhandari and Polonsky, 2007, Stauss, 2002, Zeithaml et al., 1991), leading to confusion among both researchers and managers who seek guidance with regard to how to allocate scarce resources. Some theorists argue that the execution of a service delivery process (Grönroos, 1982) is more important than the end outcome of that service (Loonam and O'Loughlin, 2008, Zeithaml et al., 1991). During the service delivery process, providers have opportunities to differentiate themselves and create value for customers by arranging their resources to enact superior service experiences (Zeithaml et al., 1991). But other studies instead propose that the performance at the conclusion of a service has a greater impact on customer satisfaction than does performance during service delivery (Bhandari and Polonsky, 2007, Stauss, 2002). Another potential consideration is whether the strength of these relationships vary depending on the adoption of affective versus cognitive perspectives (Eggert and Ulaga, 2002). The varied results across studies prevent any uniform understanding of the relative effects of customer-perceived value, either during or at the conclusion of the service delivery.

From a practical perspective, the relative importance of outcome or process dimensions of value creation is an issue of increasing concern for managers in diverse industries but particularly in service industries that rely predominantly on the strength of their customer relationships and customer loyalty. The shipping industry is one such example: a service-based, global industry valued at US\$400 billion annually (IHS Global Insight, 2009). It has experienced

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unprecedented growth as a result of decades of free trade and strong demand for consumer products (International Maritime Organization, 2012). Despite this success, several large incumbent operators, such as Genco Shipping and Trading Ltd., Gaiti Ltd., Neste Oil and Shipping Corp., have implemented exit strategies, citing challenges to their ability to sustain high service levels and pressures on their margins (Business Insider, 2014, The Economist, 2009). Faced with similar pressures, many shipping firms strive to increase customer loyalty by improving *outcome value* through reduced shipping costs or shortened transit times. For example, global carriers including Maersk Line Ltd., Mediterranean Shipping Co. S.A. and CMA CGM S.A. combine their resources and share ships and port facilities to achieve additional cost savings (Livemint, 2014). But other incumbents are investing in creating *process value* by improving services for customers, such as providing order tracking, live chat services, easier and faster booking confirmations or dispute resolution. *Process value and outcome value thus can function as competitive tools, leveraged to attract customer loyalty. However, gradually decreasing resources and increasing competitive pressures suggest the potential need to balance outcome value and process value in services industries.*

To fill in the research gap and to ease the burden of service industry managers, the present study contributes to the literature and the practice in several ways. First, it extends existing literature on value in business-to-business (B2B) markets by empirically examining and clarifying process value (i.e., the positive experience that a customer perceives during a service encounter) and outcome value (i.e., the ultimate trade-off between benefits and costs a customer perceives as the result of a service) (Grönroos, 1982). Second, this study offers insights into the relative influences of process value on affective strength and cognitive strength, in comparison with outcome value. Third, the current study extends existing research on behavioral choices in

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3 relationship settings, to examine the relative strength of affective and cognitive perspectives in  
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5 connection to their positive impacts on attitudinal and behavioral customer loyalty. Transaction  
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7 cost theory suggests that economic attachment, as captured by cognitive relationship strength, is  
8  
9 the main rationale for relational decisions (Williamson, 1985) while social exchange theory  
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11 implies that an emphasis on emotional attachment, as captured by affective strength, defines  
12  
13 relationships (Emerson, 1976). Several prior studies cite the importance of social and economic  
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15 forces that can affect exit behavior (Gassenheimer et al., 1998, Ping Jr, 1997), though no studies  
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17 examine the relative importance of affective and cognitive forces that affect other relationship  
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19 decisions, such as attitudinal or behavioral loyalty. Therefore, this study extends extant literature  
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21 by examining the relative impacts of affective and cognitive relationship strength on customer  
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23 loyalty, using transaction cost theory and social exchange theory as foundations for predictions  
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25 about relationship decisions. Fourth, the insights generated in this study recommend a balance of  
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27 process value and outcome value investments that can scaffold relationship strength, from an  
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29 affective and/or cognitive perspective. These insights should help facilitate managerial decisions  
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31 about hard and soft capital appropriation to build the affective or cognitive strength of  
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33 relationships in efforts to increase customer loyalty.

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41 The next section details the theoretical background and the hypotheses development,  
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43 followed by a description of the data collection method and summary of the empirical evaluation  
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45 of the proposed hypotheses. Finally, a discussion of the findings and implications also includes  
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47 some limitations and suggestions for further research.  
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## Theoretical background and framework

### *Customer perceived value*

Customer perceived value in general receives much attention in the marketing discipline (Eggert and Ulaga, 2002), because value is “the fundamental basis for all marketing activity” (Holbrook, 1994, p.22). In a B2B context, most conceptualizations of customer perceived value highlight “the trade-off between the multiple benefits and sacrifices of a supplier's offering, as perceived by key decision-makers in the customer's organization, and taking into consideration the available alternative suppliers' offerings in a specific use situation” (Eggert and Ulaga, 2002, p.110). Value thus differs from quality, which only captures the “benefit” side of this equation (Zeithaml, 1988). In B2B settings, value likely offers a better predictor of marketing outcomes (Gross, 1997), such as customer loyalty, repurchase intentions, word-of-mouth referrals, customer commitment and switching costs (Pura, 2005, Yang and Peterson, 2004, Eggert and Ulaga, 2002). Summarizing the value distinctions in the B2B setting, Mencarelli and Rivière (2014) suggested several key specificities: the value focus is on the importance of buyer-seller relationships, rather than the subject-object interaction; value in the B2B context is heterogeneous from inter-organizational and also intra-organizational perspectives; its perception is relative to competitive offerings (Mencarelli and Rivière, 2014, Ulaga and Chacour, 2001). Finally, different from value in B2C, most considerations of value in B2B settings adopt solely economic or functional perspectives, despite a few recent studies that emphasize the role of non-rational dimensions such as experience or emotions for explaining organizational purchasing behaviors (Mencarelli and Rivière, 2014, Leek and Christodoulides, 2012). Overall, perceived value in the B2B context thus should include both functional and non-functional aspects.

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Adopting this notion that value can be functional and/or non-functional (Chen and Kao, 2010, Richard and Allaway, 1993, Mangold and Babakus, 1991, Grönroos, 1982), the current study proposes that customer perceived value comprises process value, which is perceived during the process of service delivery, and outcome value, which is perceived at the conclusion of the service. This view is consistent with the service-dominant logic (SDL) (Vargo and Lusch, 2004), which emphasizes that value for customers is created “partly in interaction between the customer and the supplier or service provider” (Grönroos, 2000, pp.24-25). According to the SDL, customers who access and assess value have a key role in the value creation process. Involving customers as participants who co-create their experience has a positive influence on their affective responses, which then enhances their cognitive receptivity and flexibility (Pekrun et al., 2002) and increases their positive satisfaction, due to the collaborative construction of shared experiences (Roschelle, 1992). Using SDL, this type of co-creation can unfold in two ways: firm-centered or customer-centered. With a firm-centric approach, the focus is on configuring unique value drivers, based on the firm’s existing competencies. A customer-centric approach instead is characterized by an outward focus that emphasizes improving or creating new capabilities to address emerging market needs. This approach seeks to incorporate customer knowledge and skills to improve the quality of the offerings. With this lens, the market becomes a platform for co-creating customer–supplier experiences that address dynamic needs, are unique and inimitable, and define value (e.g., Prahalad and Ramaswamy (2004). The central assumption in extant studies such as those based on the SDL is that customer interaction is critical to co-production (Prahalad and Ramaswamy, 2004), value-in-use (Vargo and Lusch, 2004) and co-creation processes (Normann and Ramirez, 1993). However, there is no obvious distinction between process and outcome value and few studies examine the relative effects of process



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3 versus outcome value. Further research, exploration and definition of these components of  
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5 marketing are needed (e.g., Grönroos (2006)). Accordingly, Gummerus (2013) began with an  
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7 articulation of the distinct dimensions of value as value creation processes and value outcomes.  
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9 In the present study, however, we respond to the lack of studies that assess service performance  
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11 based on value created during and after the service delivery. Hence, we deviate slightly from the  
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13 path of Gummerus (2013) when we define process value as value created during service delivery  
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15 not as activities that firms engage in to create value. In doing so, we fill this gap in the literature  
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17 by comparing the relative impacts of outcome value and process value on relationship strength.  
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### 22 23 *Relationship strength and customer loyalty*

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25 Strong relationships have long been considered a source of competitive advantage, because  
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27 they enable unique access to information and resources (Dwyer et al., 1987). Relationship  
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29 strength refers to the ties between relational partners that reflect the relationship's ability to  
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31 weather internal and external challenges (Hausman, 2001). Numerous studies identify  
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33 relationship strength as a significant predictor of customer satisfaction, loyalty and retention  
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35 (Raciti et al., 2013, Hausman, 2001), as well as higher sales, market share and profits (Anderson  
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37 and Mittal, 2000, Zeithaml, 2000). Though, despite almost two decades of research, the extant  
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39 literature concerning relationship strength still lacks a sound conceptual framework because  
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41 relationship strength seldom has been directly measured, but instead with proxy constructs, such  
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43 as repurchase intention, word of mouth, purchase shares or willingness to invest (Barry et al.,  
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45 2008, De Ruyter et al., 2001, Hausman, 2001). The present study follows Shi et al. (2009) and  
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47 conceptualizes relationship strength with two dimensions: affective strength and cognitive  
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49 strength. Affective strength refers to the belief of relational partners that, from an emotional  
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51 perspective, the on-going relationship is worth maintaining. Cognitive strength instead captures  
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3 the economic attachment of relational partners to an on-going relationship (Shi et al., 2009).  
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5 Each type of relationship strength may have different impacts on post-purchase behavior. To  
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7 extend prior literature, this study examines how outcome and process value influence both  
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9 relationship strength types, as well as how these two types affect attitudinal and behavioral  
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11 loyalty.  
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15 Increasing customer loyalty is a commonly predicted outcome of relationship investments  
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17 (Palmatier et al., 2006), especially for B2B relationships, in which customer loyalty correlates  
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19 positively with relationship quality (Rauyruen and Miller, 2007, De Wulf et al., 2001),  
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21 satisfaction, commitment (Chumpitaz Caceres and Paparoidamis, 2007, Hennig-Thurau et al.,  
22  
23 2002) and trust (Sirdeshmukh et al., 2002). Conceiving of loyalty solely in terms of the  
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25 behavioral aspect may not be sufficient to distinguish between loyalty and spurious loyalty  
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27 though (Rauyruen and Miller, 2007). Rather, loyalty comprises two central components,  
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29 behavioral and attitudinal (Čater and Čater, 2010, Chumpitaz Caceres and Paparoidamis, 2007,  
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31 Rauyruen and Miller, 2007). Therefore, the present study examines how attitudinal and  
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33 behavioral loyalty are influenced by the different relationship strength types on the basis of well-  
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35 established social exchange theory and transaction cost theory.  
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#### 42 ***Transaction cost theory and social exchange theory***

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45 Transaction cost theory is a theory of firm governance that places transaction costs at the  
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47 center of the analysis (Williamson, 1975). Coase (1937) proposed that under certain conditions,  
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49 conducting an economic exchange in a market can incur more costs than conducting it within the  
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51 firm. Thus, transaction cost theory mainly refers to the extent to which firms should self-govern  
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53 or outsource activities, due to the transaction costs induced before and during the exchange  
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55 (Rindfleisch and Heide, 1997, Williamson, 1975). Even as marketing priorities have shifted from  
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3 a transaction to a relationship orientation, transaction cost analysis has remained a theoretical  
4 foundation for many studies of inter-firm relationships and relationship management (Anderson  
5 and Weitz, 1992, Dwyer et al., 1987). In this case, the economic costs of relationships replace  
6 transaction costs to become the main rationale for parties to decide whether to remain in or exit a  
7 relationship (Gassenheimer et al., 1998).

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10 While transaction cost theory focuses on economic interests, social exchange theory  
11 emphasizes more on affective closeness in customer relationships. A relationship develops over  
12 time and on the basis of trust, loyalty, and commitment, because parties abide by certain “rules”  
13 of exchange (Cropanzano and Mitchell, 2005). Relationship norms, based on the development of  
14 affection and feelings in relationships, can act as ties, bonding buyers and sellers to their dyadic  
15 relationships (Emerson, 1976), which represents an affective perspective of relationship strength.  
16 In summary, transaction cost and social exchange theories provide two mechanisms that can  
17 explain how two dimensions of relationship strength, cognitive and affective, uniquely affect  
18 customer loyalty.

### 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 **Research hypotheses**

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39 To answer the questions about how customer perceived process value and customer  
40 perceived outcome value influence relationship strength and how each type of relationship  
41 strength affects customer loyalty, the conceptual model is developed and displayed in Figure 1.  
42 The more value a customer receives during the service delivery process, the more positive the  
43 emotions toward the service provider become, thereby strengthening the emotional attachment  
44 between the two parties (Loonam and O'Loughlin, 2008, Zeithaml et al., 1991). Similarly, when  
45 customers perceive high outcome value at the end of the service delivery, they may forge  
46 stronger affective attachment in their relationships with the service provider (Dabholkar and  
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3 Overby, 2005, Powpaka, 1996). As affective strength develops over time, even if customers  
4 perceive high outcome value at the end of the service delivery or feel satisfied with the service  
5 provider (Dabholkar and Overby, 2005, Powpaka, 1996), customer affection throughout the  
6 service process accounts for relationship strength more than does the singular emotion upon the  
7 emergence of the service outcome. At the conclusion of the service delivery process, customers  
8 have less time to experience emotional attachment, resulting in less affective strength compared  
9 what can be expended during the service process. Thus,

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20 H1. (a) Process value and (b) outcome value have positive impacts on affective strength.

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22 H2. The effect of process value on affective strength is greater than that of outcome value.  
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27 Insert Figure 1 about here  
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32 During the service delivery process, customers compare the time, cost and effort spent on  
33 the service, as well as the service provider's reputation and expertise. Research demonstrates that  
34 the level of perceived expertise increases source credibility (Johnson and Grayson, 2005) and  
35 enhances the cognitive strength of the relationship with the service provider. Similarly, at the  
36 outcome of the service, if a customer perceives greater benefits compared with the amount of  
37 time, cost and effort invested in the service, that customer will strengthen the relationship with  
38 the service provider, based on an assessment with a cognitive perspective. Thus, both process  
39 value and outcome value are important predictors of cognitive relationship strength; however  
40 their relative importance is different.  
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53 Firms with a high level of cognitive strength place more emphasis on the economic  
54 benefits of a relationship (Shi et al., 2009, Lutz, 1986), and the relationship is strengthened in  
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3 cognitive terms as parties perceive greater economic benefits. Only at the end of the service does  
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5 a customer gain a complete view of its economic outcomes, after comparing the economic  
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7 benefits to the economic input required to obtain the service. Meanwhile, during the service  
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9 process, customer perceived value is mainly affective, reflecting interactions with service  
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11 providers. Therefore, the value perceived from the outcome of the service should influence the  
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13 cognitive strength of the relationship more than the perceived value during the interaction  
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15 process. Thus,  
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20 H3. (a) Process value and (b) outcome value have positive impacts on cognitive strength.  
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22 H4. The effect of outcome value on cognitive strength is greater than that of process value.  
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24 Building strong relationships with customers significantly influences future purchase  
25 intentions and behaviors (Anderson et al., 1994, Dwyer et al., 1987). Consistent with social  
26 exchange theory, perceived affective attachment strongly influences attitude toward the partner  
27 and the relationship (Emerson, 1976). In addition, affective attachment between two parties  
28 relates closely to attitudinal loyalty (DeWitt et al., 2008). When the relationship parties bond to  
29 each other, as a result of their mutual affective emotions, the customer experiences greater  
30 motivation to continue the relationship, with the expectation of further positive outcomes. Thus,  
31 the customer tends to have more attitudinal loyalty, demonstrated in the form of repurchase  
32 intentions.  
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46 In contrast, transaction cost theory posits that the relationship parties place more priority  
47 on economic benefits (Williamson, 1975). The customer might form cognitive attachment to the  
48 partner, for the primary purpose of deriving economic benefits, which then forms a motivation  
49 for attitudinal loyalty and increases the subsequent likelihood of repurchase intentions.  
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51 Relationship-specific economic investments also are required to forge strong cognitive  
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3 relationships, which can provide safeguards against opportunistic behaviors by service providers  
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5 (Anderson and Weitz, 1992). As an outcome, customers perceive more security in the  
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7 relationship and likely return to this service provider, with which they have an existing  
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9 relationship.  
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12 The strong affection bonding two parties of the relationship positively influences  
13 behavioral loyalty, which is measured as reluctance to search for alternatives, because when two  
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15 parties are emotionally attached to each other, they may have less motivation to search for  
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17 alternatives to replace their partners (Ranganathan et al., 2013). Similarly, when the relationship  
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19 between two parties grows cognitively stronger, both parties may exhibit greater behavioral  
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21 loyalty. Thus,  
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27 H5. (a) Affective strength and (b) cognitive strength have positive impacts on attitudinal  
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29 loyalty.  
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32 H6. (a) Affective strength and (b) cognitive strength have positive impacts on behavioral  
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34 loyalty.  
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36 Regarding the comparison of economic and social benefits received by each party,  
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38 Gassenheimer et al. (1998) proposed that equality in the distribution of economic and social  
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40 benefits is crucial for relationship retention decisions when both parties receive good economic  
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42 and social benefits. If both parties instead receive high economic benefits and low social  
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44 benefits, the economic benefits must be equally distributed to maintain the relationship.  
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46 Economic benefits then may play a more salient role in the decision to exit or maintain a  
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48 relationship than social benefits (Gassenheimer et al., 1998). Thus, we expect that parties in a  
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50 relationship attached by cognitive strength have greater attitudinal and behavioral loyalty than  
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52 relationship attached by cognitive strength have greater attitudinal and behavioral loyalty than  
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54 parties attached by affective strength. The resulting hypothesis predicts:  
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3 H7. The effect of cognitive strength on attitudinal loyalty is greater than that of affective  
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5 strength.  
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8 H8. The effect of cognitive strength on behavioral loyalty is greater than that of affective  
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10 strength.  
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## 12 **Methodology**

### 13 *Research context*

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19 The research setting for this study is the shipping industry in Vietnam. Vietnam is a  
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21 suitable empirical setting for two reasons. First, though very few studies have investigated  
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23 outcome and process elements of service value assessments in the B2B context in general, even  
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25 fewer have done so in developing country settings. Customers in developing countries generally  
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27 appear satisfied with acceptable levels of tangible core benefits (e.g., quality and value of the  
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29 service per se) as outcomes of a service (Malhotra et al., 1994). They may put less emphasis on  
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31 intangible benefits, such as the lifestyles and sensory experiences gained during the service  
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33 process. Therefore, a study of the relative effects of process value and outcome value in the  
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35 context of a developing country can yield new findings that will extend the current literature.  
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38 Second, Vietnam's business environment places a priority on relationships, and customer  
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40 satisfaction depends on their relationships with or affection toward service providers (Le and  
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42 Ngo, 2012). Setting this research in Vietnam represents a response to Malhotra et al. (1994)  
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44 recommendation to consider cultural differences in B2B relationships while also providing a  
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46 novel examination of the relative effects of affective relationship strength and cognitive strength  
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48 in the context of a developing country.  
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55 The selection of the shipping industry as the source for the data collection is important for  
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57 three reasons. First, throughout the last century, the shipping industry has experienced  
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unprecedented growth, as economic globalization and increasing industrialization of national economies has fueled free trade and rising demand for consumer products. The shipping industry carries more than 90% of global trade, and technological advances have made shipping a more efficient method of transport (International Maritime Organization, 2012). However, the terrible global economic recession during the late 2000s resulted in a sharp decline in the volume of the global merchandise trade, such that companies in the shipping industry have to rely on customer loyalty to ensure their performance. Second, advances in technology and the growth of the shipbuilding industry have made the shipping industry more competitive; between 1980 and 2011, the world cargo carrying fleet nearly tripled, and the number of newly built ships continues to rise dramatically each year (International Maritime Organization, 2012). This competitive environment compels shipping firms to identify new means for differentiation in a bid to retain customers' loyalty. Therefore, the shipping industry provides a rich and relevant context to investigate how firms can influence relationship performance through an orientation toward outcome value creation or process value creation. Third, the UNCTAD 2011 Review of Maritime Transport revealed that developing countries (including Vietnam) account for the largest share of global trade transported by sea. They are among the main customers of the shipping industry, with expanding participation in ship scrapping, registration, construction and owning. Thus, shipping companies in Vietnam provide a fruitful context for investigating how B2B service firms are working to improve their customer relationships.

### ***Data equivalence***

Following O'Cass and Ngo (2011), data equivalence was ensured through forward and backward translations for the survey between English and Vietnamese. First, the English version of the survey was translated into Vietnamese by a professional, certified translation company.



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3 Second, another professional, certified translation company translated this Vietnamese version  
4 into English. Two translated English versions were compared and adjusted to ensure conceptual  
5 equivalence for the final version of the survey. The participation of the same bilingual researcher  
6 in the forward and backward translation process helped augment translation equivalence (O'Casey  
7 and Ngo, 2011).  
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### 16 *Data collection and sample characteristics*

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18 The target respondents of this research were the shippers' logistics managers or assistants  
19 to those logistic managers, who possess the requisite knowledge to make or influence operational  
20 decisions about the selection of carriers for transporting cargo. The randomly selected sample for  
21 this study came from a Maersk Line customer database of free-hand cargo shippers, covering the  
22 entire southern Vietnam geographic area.  
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30 In the first data collection stage, 200 on-line survey invitations were e-mailed to shippers in  
31 the targeted sample population, followed by hard copies of the same questionnaire, sent by post.  
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33 Four weeks later, 190 responses were received in total, though 12 were excluded due to  
34 incomplete responses, for an effective response rate of 89%. However, a validity and quality  
35 check led to the deletion of an additional 11 responses. Thus, 167 usable responses remained, of  
36 which 70.6% had been in relationships with the focal carrier for more than 3 years, 21.6% for 1–  
37 3 years, and 7.8% for 1 year or less. Furthermore, 34.1% of responding firms used the focal  
38 carrier to ship more than 40% of their total shipments in 2010 on average, 57.5% shipped from  
39 10%–40%, and 8.4% shipped less than 10% with the focal carrier in 2010. With respect to  
40 monthly shipping volume, 49.7% carried more than 50 twenty-foot equivalent units (TEUs) per  
41 month, 31.1% from 15 TEUs to 50 TEUs, and 19.2% less than 15 TEUs. Of the 167 sampled  
42 firms, 56.9% were direct shippers, whereas 43.1% were freight forwarders and logistics  
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3 providers. Finally, 55.7% of respondents were authorized to make decisions about carrier  
4 selection, and the other 44.3% were influencers of these carrier selection decisions, which  
5 partially reflects the reliability and validity of the responses to the survey.  
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### 10 11 **Measures**

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13 All the construct measures in this study came from existing, tested scales, obtained through  
14 an in-depth review of research into outcome and process value, relationship strength and  
15 customer loyalty. Expert judges reviewed the face validity of the scales, and a pre-test served to  
16 refine all construct measures, which appeared in multi-item scales (Churchill, 1979). The  
17 responses used five-point Likert scales, ranging from strongly disagree (1) to strongly agree (5).  
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26 *Relationship strength.* The measures of the two relationship strength types were adapted  
27 from Shi et al. (2009). Cognitive strength includes three items, reflecting the extent to which  
28 customers perceive to be economically attached in their relationships with the focal firm.  
29 Affective strength includes two items that refer to how close or affectively bonded customers  
30 feel to the focal firm.  
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38 *Customer perceived value.* The two types of customer perceived value, outcome and  
39 process, came from Grönroos (1982) and Lapierre (2000). Outcome value includes two items  
40 reflecting the benefits that customers perceive at the end of the service in comparison with the  
41 money, time and effort they spend. Process value consists of three items related to the positive  
42 experience customers perceive during the service process in comparison with the money, time  
43 and effort they spend.  
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52 *Attitudinal and behavioral loyalty* This study measured repurchase intentions, as a proxy  
53 for attitudinal loyalty, with three items from Eggert and Ulaga (2002). Then reluctance to search  
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3 for alternatives offers the proxy for behavioral loyalty, measured with two items adapted from  
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5 Eggert and Ulaga (2002).  
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8 *Control variables.* Relationship age and percentage of the customer's total shipments  
9 shipped by the focal carrier provided control variables for the attitudinal loyalty and behavioral  
10 loyalty equations. That is, the percentage of the customer's total shipments carried by the focal  
11 carrier can reflect customer loyalty. In addition, because relationship age has a strong correlation  
12 with trust, commitment and continuity of the relationship (Palmatier et al., 2006), relationship  
13 age also might affect customer loyalty (Auh et al., 2007). This control variable was measured as  
14 the length of time (in years) a customer had maintained an account with the service provider.  
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## 24 **Analysis**

### 25 *Reliability, validity and descriptive statistics*

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31 Confirmatory factor analysis (CFA) provided a thorough validation of the measurement  
32 model. The results of the measurement analysis with the remaining items, including loadings, t-  
33 statistics, composite reliabilities (CRs), average variances extracted (AVEs), and fit indices, are  
34 in Appendix 1. The CFA results show that the measurement model provides a reasonable fit to  
35 the data, such that the non-normed fit index (NNFI), comparative fit index (CFI) and incremental  
36 fit index (IFI) all exceed 0.90 ( $\chi^2 = 122.41$ , d.f. = 75, root mean square error of approximation  
37 (RMSEA) = 0.062) (Gerbing and Anderson, 1992). The item loadings for all constructs ranged  
38 from 0.71 to 0.94, and their t-statistics were significant at the one-percent significance level.  
39  
40 Furthermore, the CRs for all six latent constructs exceeded the acceptable level of 0.70,  
41 indicating acceptable reliability (Hair et al., 2011, Fornell and Larcker, 1981). Appendix 1 also  
42 shows good results for the convergent validity of all constructs, with AVEs ranging from 0.61 to  
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3 0.80, which satisfies Fornell and Larcker (1981) criterion that the AVE of items by the respective  
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5 construct is at least greater than the unexplained variance ( $AVE > 0.5$ ).  
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9 Discriminant validity was assessed by a comparison of the square roots of the AVE and the  
10  
11 construct correlations (Fornell and Larcker, 1981). Table 1 suggests that all square roots of AVE  
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13 values were consistently greater than the off-diagonal correlations, indicating satisfactory  
14  
15 discriminant validity. Table 1 also includes the means and standard deviations of the constructs  
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17 used in the following analyses.  
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23 Insert Table 1 about here  
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### 28 *Common method bias*

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30 This study applied several other procedural remedies suggested by Podsakoff et al. (2003)  
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32 to control for common method bias. First, respondents were assured of their complete  
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34 confidentiality and anonymity during data collection, given no implications for right or wrong  
35  
36 answers, and encouraged to answer as honestly as possible. Second, the measurement items were  
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38 carefully constructed to avoid item ambiguity and complexity from the comprehension stage of  
39  
40 the response process (Podsakoff et al., 2003). In addition to procedural controls, this study used  
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42 Harman's one-factor test to check for the presence of common method variance (Podsakoff and  
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44 Organ, 1986). The factor analysis on all items revealed that no general factor was apparent in the  
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46 unrotated factor structure (the first factor accounted for 33.56% of the 61.18% explained  
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48 variance). This finding implies that common method variance was not present in this study.  
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## Results

The study used PLS-Graph 3.0 to test the structural paths of the model. Partial least squares (PLS) is an appropriate method for a sample with fewer than 250 observations (Reinartz et al., 2009). Furthermore, the application of PLS is virtually unrestricted for both reflective and formative measures (Chin, 1998) and unconstrained by identification concerns, so PLS can effectively handle the complex conceptual model (Hair et al., 2012).

The results in Figure 2 indicate that only process value has a significantly positive influence on affective strength ( $\beta = 0.32, t = 4.11$ ) while they show no significant link between outcome value and affective strength ( $\beta = 0.04, t = 0.50$ ). The results support H3, because both process value ( $\beta = 0.27, t = 3.25$ ) and outcome value ( $\beta = 0.17, t = 1.95$ ) positively affect cognitive strength. Both affective strength ( $\beta = 0.21, t = 2.80$ ) and cognitive strength ( $\beta = 0.36, t = 3.84$ ) have positive impacts on intention to repurchase. Cognitive strength and behavioral loyalty (reluctance to search for alternatives) ( $\beta = 0.44, t = 5.20$ ) are positively associated while little evidence supports the predicted impact of affective strength on behavioral loyalty though ( $\beta = -0.04, t = 0.48$ ). Neither control variable, relationship age or percentage of customer's total shipments assigned to the focal carrier, has significant impacts on attitudinal loyalty (age-attitudinal loyalty:  $\beta = 0.06, t = 1.08$ ; percentage-attitudinal loyalty:  $\beta = -0.01, t = 0.25$ ). Similarly, they did not have significant impacts on behavioral loyalty (age-behavioral loyalty:  $\beta = -0.10, t = 1.40$ ; percentage-behavioral loyalty:  $\beta = 0.03, t = 0.45$ ).

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Insert Figure 2 about here  
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3 The experience customers have during the process of a service can influence how they  
4 assess it at the completion of the service (Chen and Kao, 2010, Ariño, 2003), so process value  
5 may be associated with outcome value. Furthermore, the B2B service literature has suggested a  
6 direct link between perceived value and customer loyalty (Molinari et al., 2008, Lam et al.,  
7 2004). Therefore, following Johnson and Sohi (2001), Podsakoff et al. (2008) and Subramaniam  
8 and Youndt (2005), in order to replicate previous research, the current study also included the  
9 non-hypothesized links between process value and outcome value, between process value and  
10 attitudinal loyalty, and between outcome value and behavioral loyalty in the estimated model.  
11 The analysis results demonstrated a significant link between process value and outcome value  
12 ( $\beta = 0.47$ ,  $t = 7.33$ ), and process value significantly influenced attitudinal loyalty ( $\beta = 0.25$ ,  $t =$   
13 3.23). In contrast, insufficient evidence arose to support the impact of outcome value on  
14 behavioral loyalty ( $\beta = 0.05$ ,  $t = 0.52$ ).  
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32 To compare the relative effects of process value and outcome value, as well as of affective  
33 strength and cognitive strength, the Hotelling-Williams test is appropriate as it is recommended  
34 when comparing non-independent correlations that share a variable (Howell, 1997, Steiger,  
35 1980). We generated 500 bootstrap samples, calculated differences between beta weights for 500  
36 cases and p-value. Comparing each pair of effects, the results in Table 2 show strong support for  
37 H2, with the significant evidence that process value is stronger than outcome value in  
38 contributing to affective strength ( $p = 0.05$ ). The comparison does not provide any evidence that  
39 outcome value has a significantly greater effect on cognitive strength than process value ( $p =$   
40 0.99). Furthermore, the analysis results support H7 and H8. Cognitive strength is a stronger  
41 determinant of attitudinal loyalty ( $p = 0.00$ ) than affective strength. It also has a greater influence  
42 on behavioral loyalty than affective strength ( $p = 0.03$ ).  
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## Discussion and implications

### *Discussion*

The extant literature has paid little attention to the components of customer perceived value from the service delivery in general or, more specifically, to the relative effects of process value and outcome value in strengthening customer relationships. Consequently, a common assumption in the context of B2B relationships is that creating greater value than that provided by competitors will result in higher relationship performance. However, customer interaction also constitutes an important component of the service delivering process besides the service outcome. The results of the present study show further support for previous studies that stress the greater importance of process over outcome benefits (Loonam and O'Loughlin, 2008, Zeithaml et al., 1991) when we found that a customer relationship can be affectively strengthened only through positive experiences and interactions during a service process. Process value, as perceived by customers, also has a strong relationship with the cognitive attachment between involved parties, aside from outcome value.

In addition, this study reveals that outcome value does not have a significant impact on affective relationship strength, but it does have an influence on cognitive strength. Our results provide more evidence for previous studies on the importance of customer perceived value at the outcome of the service to the relationship performance (Bhandari and Polonsky, 2007, Stauss, 2002). The explanation for the weaker relative effect of outcome value than process value may stem from the sample characteristics. [Most of the relationships included in the sample already](#)

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3 have achieved high outcome value and regard it as a norm, so their focus has shifted to process  
4 value, which is generally more variable across providers. That is, despite the result by which  
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8 outcome value did not exert such a strong impact on affective and cognitive relationship strength  
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11 as process value, it remains an important objective for practitioners and marketers.

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13 Lastly, our findings indicate that the affective strength of a relationship can increase  
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15 attitudinal loyalty, though it does not have a significant effect on behavioral loyalty; cognitive  
16  
17 strength is a stronger determinant of both attitudinal and behavioral loyalty than affective  
18  
19 strength. Whereas affective strength concentrates on positive emotions to forge relationships,  
20  
21 cognitive strength intensifies the role of economic benefits in relationships. This result confirms  
22  
23 previous findings regarding the relative importance of affective value and economic value  
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25 (Gassenheimer et al., 1998). It provides more evidence for the argument that economic benefit  
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27 plays the key role in relationships with customers and that relationships developed on the basis  
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29 of cognitive benefits will be stronger than relationships developed through affective benefits.  
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### 35 ***Research implications***

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37 Our study reveals several important theoretical implications. First, it enhances the extant  
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39 knowledge regarding the connections among customer value, relationship strength and customer  
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41 loyalty by examining the relative importance of rational and non-rational factors (i.e., process  
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43 value vs. outcome value; affective strength vs. cognitive strength) in contributing to relationship  
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45 performance. Our work represents a clear response to Mencarelli and Rivière (2014) call for  
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47 research that includes “more non-rational dimensions in the appreciation of perceived value in  
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49 B2B”. The current findings show that both process value and outcome value are important in  
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51 building stronger relationship strength. Including both rational and non-rational factors in the  
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3 outcome equation represents a fine-grained approach that moves toward a better understanding  
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5 of customer-perceived value.  
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8       Second, in particular, this study supports the premise that process value and outcome value  
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10 do not contribute equally to affective relationship strength in that the effect of process value is  
11  
12 greater than that of outcome value. This finding is in line with the SDL, which asserts that  
13  
14 experience-based value gets created during service delivery (Vargo and Lusch, 2004, Grönroos,  
15  
16 2000). The positive experience that a customer perceives during a service encounter is more  
17  
18 valuable than the ultimate benefits the customer perceives as the result of the service delivery.  
19  
20 This finding reinforces a core premise of social exchange theory, which states that perceived  
21  
22 affection toward the partner determines customers' attitudes and the relationship (Emerson,  
23  
24 1976). In addition, the current findings show that higher levels of both attitudinal and behavioral  
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26 loyalty are driven by cognitive rather than affective relationships. This finding supports  
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28 transaction cost theory; economic attachment is more important than affective attachment for  
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30 driving loyalty attitudes and behaviors.  
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### 37 *Practical implications*

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39       Our study offers insights for managers in B2B service firms. First, our findings show that  
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41 managers should place more emphasis on process value which is relatively more important than  
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43 outcome value in building relationship strength. That is, managers in B2B service firms should  
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45 design offerings that emphasize the creation of more positive experiences for customers during  
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47 the service delivery process. For instance, in 2012, Maersk Line launched its new Customer Care  
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49 program, targeting high standards for invoice accuracy, booking confirmation speed,  
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51 accessibility, issue resolution, dispute resolution and pre-arrival notification (Churchill, 2014). In  
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53 addition, Maersk Line also provided sales and customer service agents with professional training  
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3 to ensure their interaction with customers more joyful and positive. The implications of the  
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5 different effects of process value and outcome value are important for managers to understand,  
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7 particularly in industries that feature many low-budget carriers, which traditionally focus on  
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9 increasing outcome value for customers rather than on creating positive interaction experiences.  
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13 Second, in light of the finding that cognitive relationship strength have a higher impact on  
14  
15 customer loyalty than affective strength, managers are advised to focus on building up customer  
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17 relationships using cognitive appeals more so than affective appeals to secure both attitudinal  
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19 and behavioral customer loyalty. As such, managers should focus on related economic  
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21 attachment of the relationship to pre-empt and potentially eliminate a search for alternative  
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23 providers. Specifically, to preserve relationships thus, managers should articulate to their  
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25 customers why the relationship is important and worth keeping by explaining to customers how  
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27 switching to alternatives would be costly in terms of time, efforts, and money.  
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32 Although we suggested managers direct their investments in customer relationship  
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34 building toward the cognitive base, they should take this advice with caution. In particular,  
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36 failure to compete against competitors on the cognitive base may jeopardize the relationships  
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38 between the firm and customers who are enticed to switch to competitors in favor of greater  
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40 economic benefits. Our advice is once the cognitive relationship base has been covered,  
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42 managers should seek to further develop the strength of the relationship using affective appeals.  
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### 46 **Limitations and research directions**

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49 The generalizability of these findings should be considered in light of this study's  
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51 limitations. The first limitation is that the cross-sectional data do not account for the potential  
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53 longitudinal effects of process value and outcome value on relationship performance, which  
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55 suggests an avenue for further research into this issue. Relationships refer to long-term  
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3 interactions between customers and service providers. Thus, future studies of the long-term  
4 effects of outcome value versus process value on relationship performance may yield important  
5 implications for managers and help them allocate investments to service outcomes and processes.  
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10 Second, although the generalizability of this study has been secured with the reasonable  
11 sample size, it is limited to the setting of the shipping industry and relies on a sample frame  
12 derived from one country. Meanwhile, research into the value construct cautions that value is  
13 contextually bounded (Vargo and Lusch, 2008) and that “it is not correct to assume that  
14 conceptualizations of value can directly transfer across contexts” (Zainuddin et al., 2011, p.366).  
15 Therefore, additional research should extend the sample frame to other contexts, to include other  
16 industries and countries and thereby examine the potential moderating effects of country- or  
17 industry-specific factors on the associations between outcome and process value and relationship  
18 strength.  
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32 Third, further studies might include the relationship lifecycle to investigate its moderating  
33 effect on the link between customer perceived value and relationship performance. In different  
34 relationship stages, relationship partners exhibit varying levels of trust, commitment and criteria  
35 for choosing their intentions and behaviors toward the relationships. At the exploratory stage of a  
36 relationship, customer perceived value associated with the outcome of the service may be more  
37 important than the process, because the economic benefits perceived at the outcome of a service  
38 will be crucial to enable customers to trust and continue the relationship. At the maturity stage,  
39 the positive experience and trust that a customer perceives during a service process instead are  
40 more important, because both parties have made specific investments in the established  
41 relationships.  
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3 In conclusion, marketing literature features an extended debate regarding the relative  
4 importance of outcome and process aspects in customer product and service evaluation. In  
5 practice, service providers in the shipping industry struggle to achieve a balance between their  
6 investments in process value and outcome value. This study offers the first comparison of the  
7 relative impacts of outcome value and process value on relationship strength and the relative  
8 effects of affective strength and cognitive strength on customer loyalty. Its findings yield  
9 important implications for both researchers and managers, regarding which types of customer  
10 perceived value and relationship strength warrant greater exploration and resource commitments.  
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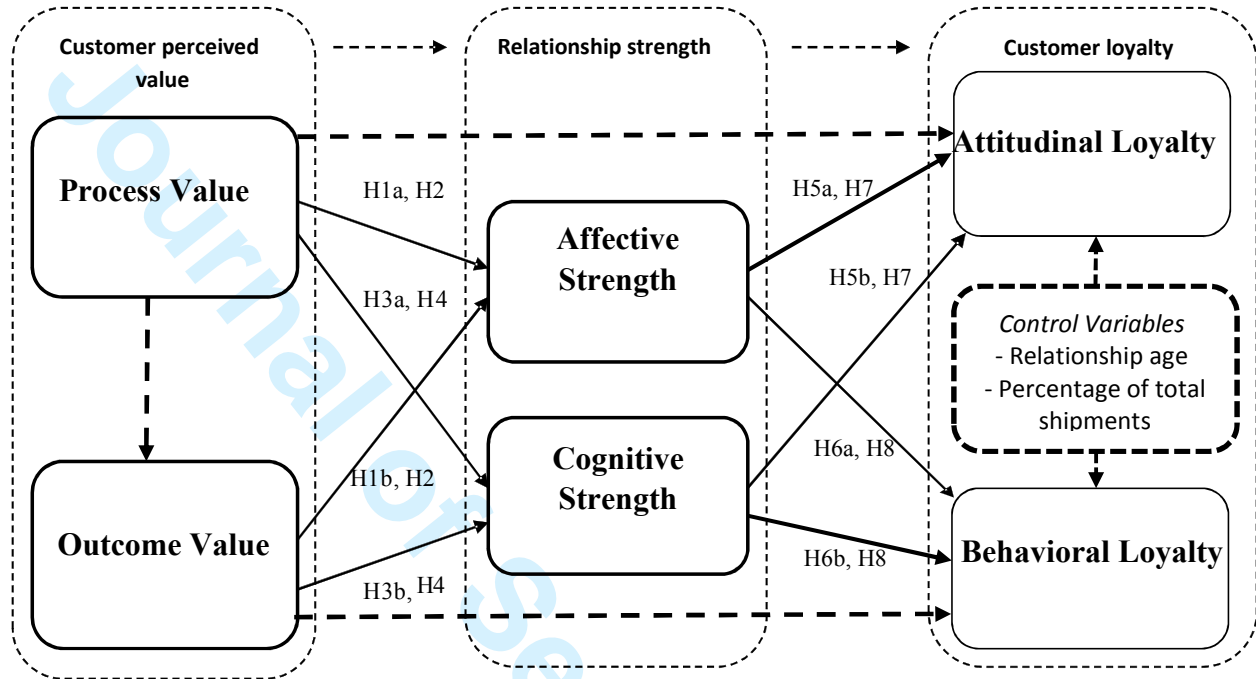
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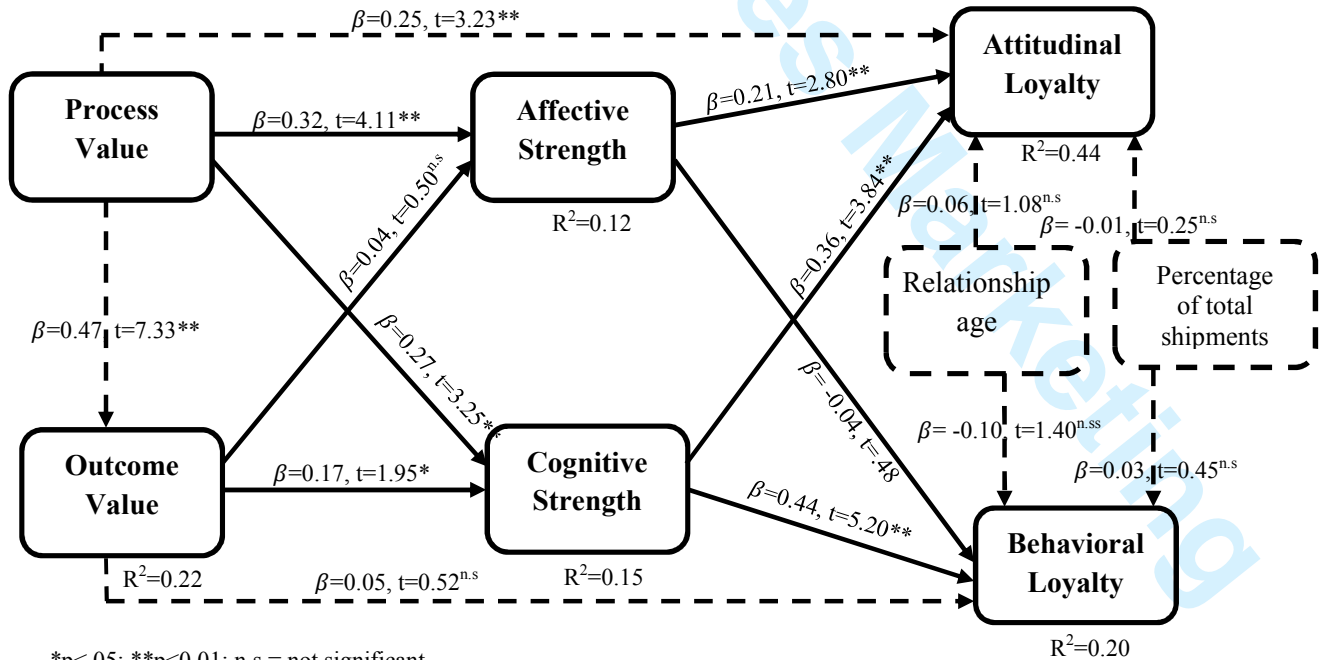


Figure 1 – Conceptual Model



Notes: The continuous arrows indicate the main hypothesized effects, and the dotted arrows indicate the effects of control variables and non-hypothesized effects used in the model.

Figure 2 – Results of Model Estimation



\*p<.05; \*\*p<.01; n.s = not significant

Notes: The continuous arrows indicate the main hypothesized effects, and the dotted arrows indicate the effects of control variables and non-hypothesized effects used in the model.

**Table 1.** Discriminant validity and tests of differences between correlations

|                        | <i>M</i> | <i>SD</i> | 1           | 2           | 3           | 4           | 5           | 6           |
|------------------------|----------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|
| 1. Process Value       | 3.52     | 0.69      | <b>0.81</b> |             |             |             |             |             |
| 2. Outcome Value       | 3.89     | 0.53      | 0.47        | <b>0.84</b> |             |             |             |             |
| 3. Affective Strength  | 3.75     | 0.62      | 0.34        | 0.21        | <b>0.82</b> |             |             |             |
| 4. Cognitive Strength  | 3.66     | 0.65      | 0.36        | 0.31        | 0.63        | <b>0.79</b> |             |             |
| 5. Attitudinal Loyalty | 3.75     | 0.54      | 0.45        | 0.25        | 0.52        | 0.59        | <b>0.78</b> |             |
| 6. Behavioral Loyalty  | 3.22     | 0.80      | 0.34        | 0.19        | 0.25        | 0.43        | 0.40        | <b>0.89</b> |

*Notes:* Diagonal elements represent the root mean square of the average variance extracted (AVE).

**Table 2.** Comparison of effects

|           | <b>The greater effect</b>               | <b>The smaller effect</b>               | <b>p-value</b> |    |
|-----------|---|---|----------------|----|
| <i>H2</i> | Process Value-Affective Strength        | Outcome Value - Affective Strength      | 0.05           | S  |
| <i>H4</i> | Outcome Value- Cognitive Strength       | Process Value – Cognitive Strength      | 0.99           | NS |
| <i>H7</i> | Cognitive Strength– Attitudinal Loyalty | Affective Strength– Attitudinal Loyalty | 0.00           | S  |
| <i>H8</i> | Cognitive Strength– Behavioral Loyalty  | Affective Strength – Behavioral Loyalty | 0.03           | S  |

*Notes:* S= Supported, NS= Not supported

### APPENDIX 1. Survey items

|   | Loadings | t-values |
|---|----------|----------|
| <i>Cognitive strength (CR=0.83, AVE= 0.62)</i>  |          |          |
| 1. From the economic perspective, the relationship with the carrier X deserves our maximum effort to maintain | 0.80     | 19.18    |
| 2. The continuation of a relationship with the carrier X is very important to our firm                        | 0.84     | 27.60    |
| 3. Changing carriers would cost our firm time and efforts and/or money  | 0.73     | 12.58    |
| <i>Affective Strength (CR=0.81, AVE= 0.68)</i>  |          |          |
| 1. We enjoy the interaction with the carrier X  | 0.78     | 15.94    |
| 2. We have very close relationship with the carrier X   | 0.86     | 23.67    |
| <i>Outcome Value (CR=0.84 , AVE= 0.73)</i>  |          |          |
| In comparison with the money, time and effort we spend...   |          |          |
| 1. The benefits we receive from carrier X is good   | 0.94     | 21.49    |
| 2. The service we receive from the carrier X is reasonable  | 0.72     | 4.31     |

|  |      |       |
|--|------|-------|
| <i>Process Value (CR=0.85, AVE= 0.66)</i>  |      |       |
| In comparison with the money, time and effort we spend...  |      |       |
| 1. The carrier X gives us a positive experience during the time we use their service                             | 0.81 | 17.41 |
| 2. We have an enjoying time during the time we use the service   | 0.85 | 25.61 |
| 3. We have a happy time during the time we use the service   | 0.77 | 12.56 |
| <i>Attitudinal Loyalty (CR=0.82, AVE= 0.61)</i>  |      |       |
| 1. Next time we will buy again service from the carrier X  | 0.71 | 12.00 |
| 2. Within the next three years, we will consider the carrier X as the first choice in our new inquiries/contract | 0.85 | 36.79 |
| 3. We intend to continue the volume support to the carrier X in the next three years                             | 0.78 | 17.21 |
| <i>Behavioral Loyalty (CR=0.88, AVE= 0.80)</i>   |      |       |
| 1. Recently we have NOT spent some effort to search for alternative carriers                                     | 0.87 | 27.81 |
| 2. We are NOT continuously looking for alternatives to replace the carrier X                                     | 0.91 | 42.11 |

**Fit statistics:**  $\chi^2 = 122.41$ ; d.f.=75; CMIN/df= 1.63; NNFI=0.91; CFI=0.94; IFI=0.94; RMSEA=0.062; GFI=0.91.