AN EMPIRICAL STUDY OF B2B RELATIONSHIP VALUE
– OFFERING TYPE AS A MODERATOR

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Abstract
This study attempts to integrate the product and service marketing context into the framework of the drivers and the outcomes of B2B relationship value. Self-reporting survey was conducted to collect data from Taiwan's information and communication technology (ICT) industry. The empirical results reveal that the relationship benefits have greater effects on relationship value than relationship costs do, and that relationship value has a significant and positive influence on both relationship continuity and relationship enhancement. In addition, the offering type does have a moderating effect on the correlation between relationship benefits (costs) and relationship value.

Keywords: Relationship Value, Relationship Benefits, Relationship Costs, Offering Type

Introduction
Value is considered to be an important constituent of relationship marketing, and the ability of a company to provide superior value to its customers is regarded as one of the most successful competitive strategies (Ravald and Gronroos, 1996). However, the complexity of the concept of customer value has resulted in this term remaining ambiguously defined in the literature, which provides many different approaches to its critical components (Ulaga and Eggert, 2005). The value of a business relationship is a multidimensional concept that reaches beyond the price versus quality trade-off (Ulaga and Eggert, 2006). Customer value is conceptualised as being dependent on benefits received and sacrifices made by customers (Menon, Homburg and Beutin, 2005). Differentiation in business relationships must contribute to customer value by either providing benefits to the customer or lowering a customer’s costs. The creation of customer value has been widely acknowledged as being one of the main objectives in buyer-seller relationships (Anderson, Jain and Chintagunta, 1993; Menon et al., 2005). Adding value to the basic market offer may improve customer satisfaction while strengthening attachment between the parties, thus promoting customer retention (Walter et al., 2003). Nevertheless, most of the extant research related to customer value or relationship value (Menon et al., 2005; Sánchez, Vijande and Gutiérrez, 2010) that focused on the exploration of its drivers did not validate its effect on relationship continuity. For example, Ulaga and Eggert (2006) developed an integrated framework of relationship value by defining value drivers from the dimensions of benefits and
costs, but they did not examine the outcomes of relationship value. Although Barry and Terry (2008) tested the outcomes of relationship value by extending this promising framework, they conducted this validation in the industrial service context. However, relationship marketing is more effective for services than products (Palmatier et al., 2006), and any examination of value from a relational perspective is especially relevant to industrial services because of the personal contact between parties (Møller and Torronen, 2003). Little research has examined the different effects of relationship marketing on industrial product and service firms, and empirical evidence is still needed. Thus, to make up for the shortcomings of past research, this study will attempt to integrate value drivers from the dimensions of benefits and costs, based on the framework proposed by Ulaga and Eggert (2006), and to examine the outcomes of relationship value. Further, the different effects of relationship marketing in a product and service marketing context will also be explored.

2. Literature Review

Drivers of Relationship Value

The purpose of relationships is to work together in ways that add value to the parties involved (Anderson, 1995). The struggle for suppliers to distinguish themselves is intensified as buyer power grows from border openings, deregulation and the internet, and buyers will place more pressure on suppliers to find an advantage (Barry and Terry, 2008). Customer value is defined as the trade-off between the benefits ("what you get") and the sacrifices ("what you give") in a market exchange (Anderson, Jain and Chintagunata, 1993; Zeithaml, 1988). Determinants of value have both economic (cost savings), functional (delivery) and technical (reliability) dimensions (Barry and Terry, 2008). Buyer-seller relations may take the form of a series of tasks or functions that create value for the agents involved (Anderson, Hakansson and Johanson, 1994). They allow the parties to “link their actives, tie together their resources, and to develop bonds between people… enabling the accumulation of knowledge, the creation of new resources, and the development of new activities” (Harris and Wheeler, 2005). Nevertheless, customer value is viewed as the customer’s evaluation of the experience, as opposed to a valuation of the customer (Menon et al., 2005). It is a business customer’s overall assessment of the utility of a relationship with a vendor, based on perceptions of benefits received and sacrifices made (Menon, Homburg and Beutin, 2005). Understanding the components of customer value will allow firms to better manage the customer value delivery process (Parasuraman, Zeithaml and Berry, 1994; Woodruff, 1997). Value drivers can be defined based on the costs and benefits of the relationship (Ulaga and Eggert, 2006).

Hennig-Thurau et al. (2000) differentiate customers' motivations for establishing and maintaining relationships into two basic categories of relational motives. The first category covers those benefits that are closely related to the core product (in the case of consumer goods marketing) or the core service (in the case of services marketing). The second category includes benefits that refer to the relationship itself. Menon et al. (2005) introduced the concept of core benefits and add-on benefits as well as purchasing price, acquisition costs, and operations costs to the business-to-business marketing literature. Ulaga and Eggert (2006) suggested an integrated concept of relationship value in terms of a 2×3 matrix that distinguishes between two fundamental dimensions of value creation (i.e., benefits and costs) and three levels at which these drivers operate (i.e., core offering, sourcing process, and customer firm’s internal operations). That is, the drivers of relationship value include core benefits, sourcing benefits, operations benefits, direct costs, acquisition costs, and operations costs.
Benefits and Relationship Value

As stated earlier, benefits take three forms – core benefits, sourcing benefits, and operations benefits. Core benefits are the degree to which the supplier offers a set of minimum attributes required by an organisational buyer (Menon et al., 2005) and are the basic requirements the business marketer must meet to be included in the customer’s consideration set (Hutt and Speh, 2004). In Ulaga and Eggert’s (2006) field study, respondents identified product quality and delivery performance as the two factors of value creation with regard to core offering. The conceptualisation of core benefits is akin to concepts such as relationship “qualifiers” (Doney and Cannon, 1997), “basic requirements” (Thompson 1998), “core value” (Grönroos, 1997) and “core elements” (Anderson and Narus, 1999). A positive relationship exists between core benefits and perceived customer value (Menon et al., 2005), as purchasing managers focus on product performance and reliability when assessing a supplier’s offering (Ulaga and Chacour, 2001), and the superior product quality levels, indeed, to some extent, serve as a differentiator among suppliers (Ulaga and Eggert, 2006). In addition, suppliers add value by consistently meeting delivery schedules (on-time delivery), by adjusting to delivery changes (flexibility), and through their capacity to deliver the right parts consistently (accuracy) (Ulaga and Eggert, 2006). Based on the above, this study proposes that the more core benefits provided by the seller, the higher the customer value created.

H1: There is a positive correlation between the core benefits provided by the supplier and the relationship value perceived by the customer.

Beyond the core offering, vendors create value in the sourcing process. Relationship benefit drivers identified at this level are the supplier’s service support and the personal interaction between both parties (Ulaga and Eggert, 2006). In addition to examining the core benefits, buyers often consider the degree of customer service (“soft” quality) surrounding the deliverable. In the case of after-sales, this includes service efficiency and treating customers with respect (Barry and Terry, 2008). In most business markets, customers search for complete solutions rather than mere products. Especially in highly competitive business markets, these service components play a crucial role in differentiating a supplier’s offering and significantly influence the customer’s value perception (Anderson and Narus, 1995). Though business relationships are established between organisations, individuals within these organisations actually manage them. In fact, “people make a relationship work or fail” (Wilson and Jantrania, 1995). Ulaga and Eggert (2006) conclude that developing interpersonal ties improved problem-solving and communication and led to a better understanding of each partner’s goals. Thus, service support and personal interaction are regarded as two major factors for increasing relationship benefits during the sourcing process. Based on the above, this study infers that the higher benefits the supplier can provide during the sourcing process, the higher the customer value will be. Therefore, the hypothesis is proposed:

H2: There is a positive correlation between the sourcing benefits provided by the supplier and the relationship value perceived by the customer.

Relationship benefit drivers identified at the level of customer operations include supplier know-how and time-to-market (Ulaga and Eggert, 2006), and supplier reliability and flexibility (Barry and Terry, 2008). Buyers will credit their providers with having expertise and capabilities
that contribute to the bottom line. Customisation of knowledge to a specific domain occurs when organisational resources are applied to understanding patterns and rules particular to a specific context. Expertise deployment leads to increasingly effective issue diagnosis and problem-solving based on greater levels of familiarity and understanding of the nuances of a particular exchange. Good understanding of customer operations and a long-standing experience with transactions would enhance the value that suppliers contribute by discovering customer needs or engaging in product/service improvement or development. Specific expertise assists suppliers in solidifying their positions. This enhancement in value delivery increases the likelihood that the exchange will be continued in the future. In addition, time-to-market emerges as an important value driver in the supplier relationship. Facing increasing pressure to quickly develop products/services, firms turn to suppliers in different areas to reduce cycle times. A supplier’s ability to reduce the time-to-market represents an important source of value creation in the buyer-seller relationship because improving the firm’s competitive position by capitalising on the capabilities of the supplier is an important goal of purchasing (Hutt and Speh, 2004). Furthermore, supplier reliability, the extent to which the buyers can rely on the supplier, and supplier flexibility, the extent to which the supplier makes concessions in response to sudden, often unanticipated customer needs, have positive impacts on relationship value (Barry and Terry, 2008). Consequently, the higher benefits the supplier can provide in customer operations, the higher the customer value will be. Hence, the third hypothesis is as follows:

\[ H_3: \text{ There is a positive correlation between the operational benefits provided by the supplier and the relationship value perceived by the customer. } \]

**Cost and Relationship Value**

Responding to a growing concern among managers over total costs incurred in a relationship, a broader view of costs should include both the purchase price and the additional costs associated with the entire relationship between the buyer and the seller (Aderson and Narus, 1999; Menon et al., 2005). Three types of costs associated with a buyer-seller relationship – direct costs, acquisition costs, and operational costs – have been considered by the emerging literature when evaluating a business relationship (Homburg, 2001; Menon et al., 2005; Ulaga and Eggert, 2006). Direct cost is the actual price charged by the supplier for the main products/services sold to a customer firm. Because this cost is the most easily measured, it traditionally has received the most attention from business buyers and sellers (Canon and Homburg, 2001). It is also the sacrifice most easily identified by purchasing managers (Cannon and Homburg, 2001). Buyers value both the supplier’s capacity to offer a fair market price and its commitment to reduce prices continuously (Ulaga and Eggert, 2006). As the purchase price represents a sacrifice a customer has to make, we assume that it will have a negative influence on customer value. Therefore, it is believed that the lower the direct product cost, the higher the customer value it creates. The fourth hypothesis is proposed as below:

\[ H_4: \text{ Direct costs have a negative impact on relationship value. } \]

Business customers try to obtain necessary products or services and integrate them into their own production processes. During the sourcing process, a number of internal and external process costs are incurred, such as order handling, maintenance and repair and factors related to logistics (e.g., transportation of goods and warehousing). Cannon and Homburg (2001) call the
costs customers incur by acquiring and storing products “acquisition costs”. Acquisition costs include expenses related to ordering, delivering, and storing products, as well as the expense of monitoring supplier performance and coordinating and communicating with the supplier (Ellram, 1996). A supplier’s marketing and other operating policies can have a significant impact on the customer’s acquisition cost (Menon et al., 2005). Lowering such costs has been the primary objective of the supply chain management movement in purchasing and logistics practice (Cannon and Homburg, 2001). Grounded in the concept that cost-saving is a primary goal of relationship-building, this study believes that the lower the acquisition costs a customer incurs from a supplier, the higher the relationship value will. The fifth hypothesis is proposed as follows:

**H₅:** Acquisition costs have a negative impact on relationship value.

Operations costs refer to costs incurred by the customer in the day-to-day operations of its business (Menon et al., 2005). These costs are inherent to the customer firm’s primary business (Cannon and Homburg, 2001). Such costs include expenses for research and development, manufacturing and downtime, and internal coordination (Gyrna, 1988). For example, improved quality of incoming raw materials and component parts will reduce the need for rework and thus keep operations costs lower (Menon et al., 2005). The pursuit of operational cost savings is a primary goal of relationship-building in industrial settings (Cannon and Homburg, 2001; Ulaga and Eggert, 2006; Barry and Terry, 2008). As cost-saving is the main purpose of establishing a buyer-seller relationship, this study believes that the supplier’s assistance in lowering customer’s operations costs will increase the relationship value perceived by the customer. Therefore, the sixth hypothesis is as follows:

**H₆:** Operations costs have a negative impact on relationship value.

### Outcomes of Relationship Value

The objective in relationship marketing is to establish, maintain and enhance the relationship at a profit (Gronroos, 1994). The buyer has to make decisions regarding whether a relationship should be established (first time purchase), if a relationship should be continued (repurchase), and if a relationship should be enhanced (increase commitment to the supplier). Continuity of a relationship is a type of repetitive decision-making and may very well continue “at an arm’s length” distance. It has been suggested that customers make long-term commitments to reduce transaction costs and/or the uncertainty of future benefits and to obtain certain advantages (e.g. counselling assistance) not available in short-term exchange relationships (Crosby, Evans and Cowles, 1990). In an empirical study of industrial services, Barry and Terry (2008) demonstrated that a buyer’s future intentions regarding a service provider are largely influenced by the perceived value of the relationship and the buyer’s affective commitment to the provider. Ring and Van de Ven (1994) proposed that the decision to continue an inter-organisational relationship is based on an assessment of economic efficiency and fairness of past transactions and, thus, satisfaction with the supplier. Dwyer et al. (1987) pointed out that committed partners are willing to incur sacrifices in time and effort in pursuit of future benefits that outweigh these sacrifices. In essence, they are influenced by relationship value. Based on the above, this study assumes that a customer will want to maintain a long-term relationship with a
supplier if a high relationship value is perceived during the exchange. Thus, the seventh proposed hypothesis is as follows:

**H₇:** There is a positive correlation between relationship value and relationship continuity.

Relationship enhancement refers to the broadening and deepening of the relational bonds with the service provider (Cross and Smith, 1995). A decision to enhance the scope of the relationship involves a more strategic decision that will usually change the buyer’s value chain, for example, by exchanging strategic information, joint product development projects, or by integrating some of the business functions (Selnes, 1998). According to Parvatiyar and Sheth (2002), there is greater opportunity for cross-selling and up-selling to a customer who is loyal and committed to the firm and its offerings. Cross-selling means increasing the number of services or products that a customer acquires from a company. Up-selling focuses on upgrading or improving the conditions of previously acquired products to keep customers consuming. Although cross-selling and up-selling operate in different ways, they are both aimed at reinforcing the attachment between the company and its customers through their continued consumption (Salazar et al., 2007). Customers' experience and satisfaction with the supplier appears to be a necessary premise for achieving not only continuity but also enhancement of the relationship (Selnes, 1998). A common motivation to enhance the scope of a relationship is that the enhancement is attractive in some way (Ring and Van de Ven, 1994). Grönroos (1997) suggests that the success of a relationship that is mutually profitable for the supplier and buyer depends on the ability to continuously provide episode value and relationship value. Episode value is improved by increasing the benefits and/or reducing the sacrifice for the buyer. This will improve satisfaction and stimulate repurchasing (or continuity). Grounded in the conceptualisation of relationship marketing, this study supposes that high customer value will enhance the relationship between the buyer and seller. Therefore, the following, eighth hypothesis is proposed:

**H₈:** There is a positive correlation between the relationship value and relationship enhancement.

### The Moderating Effects of Offering Type

The development of marketing programs for both products and services can be approached from a common perspective; yet, the relative importance and form of various strategic elements differs between products and services. Services are deeds, processes, and performances (Zeithaml, Bitner and Dwayne, 2009), and they are intangible. The more the market offering is characterised by intangible elements, the more difficult it is to apply the standard marketing tools that were developed for products. The business marketer must thus focus on specialised marketing approaches appropriate for services. The intangibility of the offering may make the benefits of trust more critical (Palmatier et al., 2006). Furthermore, a critical element in the buyer-seller relationship is the effectiveness of the individual who actually provides the service because services are generally consumed as they are produced. Moreover, timely response to unpredictable and widely fluctuating demand is needed because services cannot be stored. Due to the different characteristics of offering type, the category and level of benefits customers expect, or the sacrifices customers would like to make, may be different. For example, Bitner (1995) indicated that customers might seek ongoing relationships with service providers to reduce the perceived risk in evaluating services characterised by intangibility and credence properties. According to the research findings of Palmatier et al. (2006), relationship quality has a greater
impact on performance for service than for product sales; moreover, strong relationships appear to be more effective for building customer loyalty and improving seller performance for service than for product offerings. That is, the offering type will cause a moderating effect on the relationship between the relationship benefits/costs and relationship value. Based on the above, this study proposes that the customer will focus on different relationship benefits/costs in the case of different offering types. The ninth and tenth hypotheses are outlined as follows:

3. Research Method

Based on the model proposed by Ulaga and Eggert (2006), this study examines relationship value with respect to two fundamental dimensions of value creation (i.e., benefits and costs) and three levels at which these drivers operate (i.e., the core offering, the sourcing process, and the customer firm’s internal operations). Nevertheless, because the characteristics of a business-to-business marketing relationship tend to be close and enduring (Hutt and Speh, 2004), this study measures the linkage between the perceived value and customers' intention to continue or enhance the relationship with the seller. The relationship continuity and relationship enhancement are therefore integrated as the dependent variables (outcomes) of relationship value. In addition, according to Palmatier et al. (2006), relationship marketing is more effective on service than product relationship marketing. Hence, this study also includes the offering type in the model as a moderator. The empirical framework is shown in Figure 1.

![Figure 1: Research Framework](image)

Data Collection

Taiwan's information and communication technology (ICT) industry was selected as the research target because: (1) it has always been in a significant global position, as over 90% of the global ICT products are processed by manufacturers in Taiwan; (2) the Taiwan government is
trying to boost the development of an information service and ITES (Information Technology-Enabled Service) in addition to hardware manufacturing; and (3) single-industry homogeneity may exclude potential confounding effects. A questionnaire survey was developed to target companies of hardware/software production, sales, installation and services related to information, communications and electronics products. A set of two questionnaires were mailed to each company. In total, 550 questionnaires were sent to 275 companies and 50 questionnaires were retrieved from 25 companies. After follow-up by telephone and e-mail, a total of 110 questionnaires from 56 companies were received. Because two of the surveyed companies only returned Part A of the questionnaire, the data were not included in the statistics. There are 108 effective questionnaires, and the response rate is 19.6% (108/550). Although the response rate is not high, it is similar to the response rate of other B2B research context, such as Ulaga and Eggert (2006). Furthermore, most of the respondents are mid- to high-level management and procurement personnel, with a total percentage of 72.2%. Because the respondents understand their firms’ business relationships quite well, the average confidence in the accuracy of the answers is 85.241%, and the confidence in understanding of the business relationships with suppliers is 84.963%. Such a high confidence level indicates high reliability of the data provided by the respondents.

Measurements

In the questionnaires, most of the items were measured with the scale developed by Ulaga and Eggert (2006) with some modifications suitable for both product and service suppliers. There are three dimensions of relationship benefits (core benefits, sourcing benefits and operations benefits). The measurement of core offering consists of seven items, and some modifications were made on wording to suit the context of this study. Service support refers to the supplier’s willingness to address customers’ concerns about ongoing relationships, such as providing necessary information, technical or other additional service support as per the customers’ request. Personal interaction refers to the development of interpersonal ties for improving problem-solving and communication and lead to a better understanding of each partner’s goals. Eleven items from the research of Ulaga and Eggert (2006), with some modifications, were used to measure these two constructs. Supplier reliability means the extent to which the buyers can rely on the supplier; business understanding means suppliers’ understanding of customer needs; flexibility means the extent to which the supplier is willing to make changes to accommodate the customer's changing needs. Eight items adapted from Barry and Terry (2008) and Cannon and Homburg (2001) were used to measure supplier reliability and business understanding.

There are three dimensions of relationship costs (direct costs, acquisition costs and operations costs). In the domain of core offering, the corresponding relationship cost dimension is direct costs, that is, the actual price charged by the supplier for the main products or services provided to customer. The measurement question designed by Cannon and Homburg (2001) is “How do the direct costs of this supplier compare with the costs of your other supplier?”(much lower, somewhat lower, the same, somewhat higher, much higher) In the domain of the sourcing process, the corresponding relationship cost dimension is acquisition costs. This refers to costs customers incur by acquiring and storing products or services from a particular supplier. To have the measurement suit both the product and service offerings, this study adapts five measures, as below, from Cannon and Homburg (2001). “How does each of the following costs (ordering costs, delivery costs, costs of monitoring supplier performance, costs of coordination and communication between customer’s firm and the supplier, administrative costs) of this supplier compare with the costs of your other supplier? (much lower, somewhat lower, the same, somewhat higher, much higher) In the domain of customer operations, the corresponding relationship cost dimension is operations costs. Operations costs are costs inherent to the customer firm's primary business. To have the measurement suit both the product and service offerings, this study adapts two measures, as below, from Cannon and Homburg (2001). “How
does each of the following costs (costs of coordination within customer’s firm and costs associated with downtime or rework) of this supplier compare with the costs of your other supplier?” (much lower, somewhat lower, the same, somewhat higher, much higher)

Relationship value is the trade-off between the multiple benefits and sacrifices of a supplier’s offering, as perceived by key decision-makers in the customer’s organisation. Four items designed by Ulaga and Eggert (2006) were used to evaluate relationship value from a customer’s perspective. According to a previous literature review, this study has concluded two major outcomes of relationship value: relationship continuity and enhancement. Relationship continuity refers to the case when customers satisfied with a supplier’s product or service intend to repurchase from the company and would like to continue the relationship with the company. The measures, consolidated from Barry and Terry (2008) and Johnson (1999), are as below: 1) customers expect to continue the relationship with the supplier for a long time; 2) customers keep purchasing products/services from the supplier; and 3) it is unlikely that the customer will be doing business with this supplier over the next few years. Relationship enhancement refers to the case when the customer is loyal and committed to a firm and its offering, and there is greater opportunity for cross-selling and up-selling, which will enhance the relationship between the two parties. This study designs three questions for measuring relationship enhancement by referring to the definitions and purposes of cross-selling and up-selling identified by Salazar et al. (2007).

Reliability and Validity Tests

In terms of reliability analysis, the Cronbach α coefficients of the three relationship benefits were calculated to be: α=0.894 for core benefits, α=0.932 for sourcing benefits and α=0.896 for operations benefits. Regarding the three dimensions of relationship costs, as there is only one question for direct cost, reliability analysis is not available. The Cronbach α was 0.733 for acquisition cost and α=0.710 for operation cost. As for the Cronbach α coefficients of relationship value and its outcomes, α= 0.932 for relationship value, α=0.901 for relationship continuity and α=0.847 for relationship enhancement. All of the resulting scales are above the suggested value of 0.7 (Nunnally, 1978). Thus, we concluded that the measures utilized in the study were valid and internally consistent.

Two measurement models (independent variables and dependent variables) were tested. Most fitness indicators are in compliance with the overall fitness standards of the model; therefore, the overall fitness is good. Each variable’s pattern coefficient on its posited underlying construct factor is significant (p<0.01). Hence, the constructs in this study have good convergent validity. (Anderson and Gerbing, 1988; Bagozzi and Yi, 1988).

Table 1: Convergent Validity of Independent Variables

<table>
<thead>
<tr>
<th>Construct</th>
<th>Measurement Variable</th>
<th>Standardized Factor Loading (λ)</th>
<th>Standard Error</th>
<th>t-value</th>
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<tr>
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$\chi^2_{(22)} = 233.452$, $\chi^2_{(228)}/df = 1.024 < 2$,
GFI = 0.862 > 0.8, AGFI = 0.803 > 0.8, RMSEA = 0.015 < 0.08,
RMR = 0.028 < 0.05, TLI = 0.996 > 0.9, CFI = 0.997 > 0.9

**p < 0.01

<table>
<thead>
<tr>
<th>Construct</th>
<th>Measurement Variable</th>
<th>Standardized Factor Loading ($\lambda$)</th>
<th>Standard Error</th>
<th>t-value</th>
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<td>0.936***</td>
<td>0.030</td>
<td>31.200</td>
</tr>
<tr>
<td></td>
<td>RV4</td>
<td>0.873***</td>
<td>0.039</td>
<td>22.385</td>
</tr>
<tr>
<td>RC</td>
<td>RC1</td>
<td>0.935***</td>
<td>0.032</td>
<td>29.219</td>
</tr>
<tr>
<td></td>
<td>RC2</td>
<td>0.881***</td>
<td>0.037</td>
<td>23.811</td>
</tr>
<tr>
<td>RE</td>
<td>RE1</td>
<td>0.793***</td>
<td>0.071</td>
<td>11.169</td>
</tr>
<tr>
<td></td>
<td>RE2</td>
<td>0.922***</td>
<td>0.046</td>
<td>20.043</td>
</tr>
<tr>
<td></td>
<td>RE3</td>
<td>0.714***</td>
<td>0.062</td>
<td>11.516</td>
</tr>
</tbody>
</table>

$\chi^2_{(21)} = 24.02$, $\chi^2_{(21)}/df = 1.144 < 2$,
GFI = 0.956 > 0.8, AGFI = 0.905 > 0.8, RMSEA = 0.037 < 0.08,
RMR = 0.011 < 0.05, TLI = 0.993 > 0.9, CFI = 0.996 > 0.9

**p < 0.01

Next, this study assesses discriminant validity by examining the confidence interval (± two standard errors) around the correlation estimate between every two factors. The results demonstrate that discriminant validity is satisfactory.
Non-Response Bias

To ensure that the retrieved sample data are representative, a non-response bias analysis is conducted before data analysis. This study separates the sample into two groups, early returns (50 questionnaires) and late returns (58 questionnaires), and then performs an independent sample t-test to evaluate whether there is any significant difference in the means of the measured items between these two groups. The results show no significant differences between the means of each individual construct item. Also, there are no significant differences in the company capital and numbers of employees between these two sample groups. This indicates that there is no significant non-response bias.

4. Result

Verification of Hypotheses

After examination of the convergent validity and discriminant validity, this study performs regression analyses to verify the hypotheses. First of all, this study runs regression analyses for three models. In Model I, the relationship value is considered to be a dependent variable, and core benefits, sourcing benefits, operations benefits, direct costs, acquisition costs and operation costs are considered independent variables.

For model I, the F value is significant (p=0.000), and the adjusted $R^2 = 0.342$. As the VIF of each independent variable is less than 1.2, the collinearity between independent variables is less than 10, which is acceptable (Hair et al., 1998). The standardised coefficients indicate the significantly positive effects of core benefits, sourcing benefits and operations benefits on relationship value. Conversely, the three cost dimensions (direct costs, acquisition costs and operations costs) have negative effects on relationship value. However, only the effect of operations costs is significant.

In Model II, relationship continuity is considered a dependent variable, and relationship value is considered an independent variable. For Model II, the F value is significant (p=0.000), and the adjusted $R^2 = 0.429$. The standardised coefficient shows that relationship value has a significant and positive influence on relationship continuity.

In Model III, relationship enhancement is considered to be a dependent variable, and relationship value is considered to be an independent variable. For Model III, the F value of the overall model is significant (p=0.000), and the adjusted $R^2 = 0.146$. The standardised coefficient shows that relationship value has a significant and positive influence on relationship enhancement.

Table 3: Summary of Regression Analysis for Models without Moderators

<table>
<thead>
<tr>
<th>Model</th>
<th>Hypothesis</th>
<th>Path</th>
<th>Anticipated Effect</th>
<th>Standardized Coefficient</th>
<th>t-value</th>
<th>Significance</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model I</td>
<td>H₁</td>
<td>CB→RV</td>
<td>+</td>
<td>0.250***</td>
<td>3.020</td>
<td>0.003</td>
<td>Supported</td>
</tr>
<tr>
<td></td>
<td>H₂</td>
<td>SB→RV</td>
<td>+</td>
<td>0.357***</td>
<td>4.358</td>
<td>0.000</td>
<td>Supported</td>
</tr>
<tr>
<td></td>
<td>H₃</td>
<td>OB→RV</td>
<td>+</td>
<td>0.327***</td>
<td>4.004</td>
<td>0.000</td>
<td>Supported</td>
</tr>
<tr>
<td></td>
<td>H₄</td>
<td>DC→RV</td>
<td>-</td>
<td>-0.420</td>
<td>-0.515</td>
<td>0.607</td>
<td>Not Supported</td>
</tr>
<tr>
<td></td>
<td>H₅</td>
<td>AC→RV</td>
<td>-</td>
<td>-0.019</td>
<td>-0.234</td>
<td>0.815</td>
<td>Not Supported</td>
</tr>
<tr>
<td></td>
<td>H₆</td>
<td>OC→RV</td>
<td>-</td>
<td>-0.163**</td>
<td>-1.969</td>
<td>0.052</td>
<td>Supported</td>
</tr>
</tbody>
</table>
The Moderating Effects of Offering Type

For the models which have offering type as a moderator, the results of regression analysis for product offering and service offering are summarized in Table 4. This table has shown the moderating effect of offering type on the correlation between relationship benefits/relationship costs and relationship value in each dimension. To sum up, customers value different benefit levels for different offering types in the business relationship. That means that the offering type will actually affect the correlations between relationship benefits and relationship value. Hence, hypothesis H9 is supported. However, in respect to costs, the empirical results of this study cannot prove that offering type has moderating effect on the correlations between relationship costs and relationship value. Thus, hypothesis H10 is not supported.

Table 4: Summary of Regression Analysis for Models without Moderators

<table>
<thead>
<tr>
<th>Model</th>
<th>Hypothesis</th>
<th>Path</th>
<th>Anticipated Effect</th>
<th>Standardized Coefficient</th>
<th>t-value</th>
<th>Significance</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model I</td>
<td>H1</td>
<td>CB→RV</td>
<td>+</td>
<td>0.250***</td>
<td>3.020</td>
<td>0.003</td>
<td>Supported</td>
</tr>
<tr>
<td></td>
<td>H2</td>
<td>SB→RV</td>
<td>+</td>
<td>0.357***</td>
<td>4.358</td>
<td>0.000</td>
<td>Supported</td>
</tr>
<tr>
<td></td>
<td>H3</td>
<td>OB→RV</td>
<td>+</td>
<td>0.327***</td>
<td>4.004</td>
<td>0.000</td>
<td>Supported</td>
</tr>
<tr>
<td></td>
<td>H4</td>
<td>DC→RV</td>
<td>-</td>
<td>-0.420</td>
<td>-0.515</td>
<td>0.607</td>
<td>Supported</td>
</tr>
<tr>
<td></td>
<td>H5</td>
<td>AC→RV</td>
<td>-</td>
<td>-0.019</td>
<td>-0.234</td>
<td>0.815</td>
<td>Supported</td>
</tr>
<tr>
<td></td>
<td>H6</td>
<td>OC→RV</td>
<td>-</td>
<td>-0.163**</td>
<td>-1.969</td>
<td>0.052</td>
<td>Supported</td>
</tr>
<tr>
<td>Model II</td>
<td>H7</td>
<td>RV→RC</td>
<td>+</td>
<td>0.659***</td>
<td>9.019</td>
<td>0.000</td>
<td>Supported</td>
</tr>
<tr>
<td>Model III</td>
<td>H8</td>
<td>RV→RE</td>
<td>+</td>
<td>0.392***</td>
<td>4.388</td>
<td>0.000</td>
<td>Supported</td>
</tr>
</tbody>
</table>

Adjusted $R^2 = 0.467$,  $F=8.749**$,  $p=0.000$

***p<0.01,  **p<0.05

5. Discussion

The Relationships among Relationship Benefits, Costs, Value, Continuity, and Enhancement

The results of the data analysis indicate that the effects of three dimensions of relationship benefits (core benefits, sourcing benefits and operation benefits) on relationship value are all significant and positive. As predicted, the effects of the three dimensions of relationship costs on relationship value are negative, but only the effect of operation costs is significant. In addition, relationship value strongly influences relationship continuity and relationship enhancement. Consistent with the finding of Ulaga & Eggert (2006 ), the relationship between core benefits and relationship value is significant ($\beta=0.25$), and $H_1$ is supported. Good quality and delivery...
performance will enhance relationship value, whereas among the three dimensions of relationship benefits, core benefits have the weakest effect on relationship value. It may be that quality and delivery performance are the prerequisites for establishment of a buyer-seller relationship but not a major source of value creation.

As predicted, there is a significant and positive correlation between sourcing benefits and relationship value (β=0.357), and \( H_2 \) is supported. This association is the strongest among the three dimensions of relationship benefits. Ulaga and Eggert (2006) found a similar result. Our finding further provides evidence that personal interaction and service support from the supplier are dominant value drivers. Developing interpersonal ties improves problem-solving and communication and leads to a better understanding of each partner’s goals. A seller that has more interpersonal ties with a customer should gain better access to information and sales opportunities and be more efficient at building and maintaining customer relationships (Palmatier, 2008). Nurturing these interpersonal connections creates an atmosphere in which these specialised personnel can cooperatively identify new solutions that lower costs or advance performance. Moreover, the customer will trust the seller if the seller can provide additional service support. The vendor’s willingness to address customers’ concerns in ongoing relationships is valued as supplier responsiveness. All of these factors will be helpful to the development of a business relationship between two parties.

Consistent with previous research (Ulaga and Eggert, 2006; Barry and Terry, 2008), the current research finds that operations benefits have a significant and positive influence on relationship value (0.327), and \( H_3 \) is supported. In the high-technology industry, the supplier’s better understanding of the customer’s business, more flexibility or capability to handle changes, and reliability will offer the customer more benefits from the relationship with the supplier. Therefore, the supplier’s understanding of the customer’s business, reliability and flexibility are all major sources of value creation in customer operations.

The empirical results of this study cannot prove that there is a significant correlation between direct costs or acquisition costs and relationship value. However, in the model without the offering type as a moderator, direct costs have a negative influence on relationship value. The influence direction is the same as originally expected for Hypothesis \( H_4 \). The possible reason for the non-significant correlation may be that customers in the high-tech industry understand that they have to pay higher costs to receive a high-performance product or superior services. The total cost may be more important than direct costs. Purchasing managers consider not only the purchase price but also an array of other considerations. Moreover, in the ICT industry, a great deal of advanced equipment, components and technical services are imported from abroad, and when the major supplier is a foreign company, the acquisition costs during the sourcing process, such as ordering costs, delivery costs and costs of communication with supplier, will be higher. However, to purchase advanced products or services, customers are still willing to pay higher acquisition costs. Hence, in the ICT industry, the effect of acquisition costs on relationship value is not significant. The empirical results of this study cannot prove that acquisition costs have a significant influence on relationship value. However, in the model without offering type as a moderator, the influence direction of acquisition costs on relationship value is same as expected for hypothesis \( H_5 \). The possible reason for the not significant correlation may be because in the ICT industry, many advanced pieces of equipment, components or technical services are imported abroad, and when the major supplier is a foreign company, the acquisition costs during sourcing process, such as ordering costs, delivery costs and costs of communication with supplier will be higher. Operation costs have a negative influence on relationship value. The standardised coefficient is -0.163 and reaches a significant level. The influence direction is also
the same as originally expected for Hypothesis $H_6$. This finding is consistent with the research result of Ulaga and Eggert (2006) and means a higher customer value will be created if the supplier can help the customer reduce operation costs. The operation costs are the most important cost factor for relationship value in the ICT industry.

There is a significant and positive correlation between relationship value and relationship continuity. The standardised coefficient is 0.659. Hypothesis $H_7$ is supported. Ring and Van de Ven (1994) proposed that a decision to continue an interorganizational relationship is based on an assessment of economic efficiency and fairness of the past transactions and, thus, satisfaction with the supplier. According to the empirical result of this study, in the ICT industry, the customer will be more willing to continue the dealings and sustain a long-term business relationship with the supplier if the customer’s perception of the relationship value is high due to past transactions with the supplier. Relationship value has a significant and positive influence on relationship enhancement. The standardised coefficient is 0.392. Hypothesis $H_8$ is supported. Relationship enhancement means an increase in the quantity and percentage of products/services purchased from the supplier, an increase in the number of products acquired from the supplier (cross-selling) and an upgrade or improvement to the previously purchased products (up-selling). According to Parvatiyar and Sheth (2002), there is greater opportunity for cross-selling and up-selling to a customer who is loyal and committed to the firm and its offerings. Although both cross-selling and up-selling operate in different ways, they are both aimed at reinforcing the attachment between the company and its customers through their continued consumption (Salazar et al., 2007). The empirical results of this study have shown that in the ICT industry, the customer will be more willing to increase purchasing quantity, percentage, and categories and upgrade previously purchased products when higher value is perceived by the customer from the relationship with the supplier.

The Moderating Effects of Offering Type

Two models with different offering types were examined to verify the moderating effect. The results of the regression analysis for product and service offerings provides the evidence of a moderating effect of offering type on the correlation between relationship benefits/relationship costs and relationship value. With respect to relationship costs, for both the product and service offerings, the association between direct or acquisition costs and relationship value is not significant. However, there is a marginally significant correlation between the operation cost and relationship value for the product offering. It seems that operation cost affects relationship value stronger for the product offering than for the service offering. With respect to relationship benefits, for the product offering, the operations benefits have the strongest influence on relationship value. Sourcing benefits are secondary. The correlation between core benefits and relationship value is not significant. For the service offering, correlations between the three dimensions of relationship benefits and relationship value are all significant, and the effect of sourcing benefits is the strongest, followed by core benefits and operations benefits.

The above analysis reveals that customers value different benefit levels for different offering types in the business relationship. For the product offering, customers value the operations benefits most because the supplier’s understanding of the customer’s business, reliability and flexibility will be helpful to the customer in gaining a competitive advantage in a highly competitive market. For the service offering, customers value the sourcing benefits most. Because one of the characteristics of the service industry is that customers are involved in the process of the service offering, if the supplier can provide more considerate service support or maintain good interaction with buyers, buyers will feel they are being treated as important
customers and thus will be more willing to communicate or exchange opinions with suppliers. All of these factors will have a direct influence on service performance.

Furthermore, the importance of core benefits is different for product and service offerings. For the product offering, the correlation between core benefits and relationship value is not significant; whereas, for the service offering, such correlation is significant and even stronger than the operations benefits. The possible reason may be that for the product offering, quality and delivery are more specific, more easily measured, and deemed basic requirements for establishing the buyer-seller relationship but not key factors for improving customer-perceived value. For the service offering, due to the intangibility and inconsistency, customers may pay more attention to the promptness, accuracy and quality of services. Therefore, the importance of core benefits to relationship value depends on the offering type.

To sum up, customers value different benefit levels for different offering types in the business relationship. This means that the offering type will actually affect the correlations between relationship benefits and relationship value. Hence, Hypothesis H9 is supported. However, with respect to costs, the empirical results only support the marginal correlations between operation costs and relationship value for the product offering, and Hypothesis H10 is partially supported. Gyrna (1988) enforced operation costs including expenses for research and development, manufacturing and downtime, and internal coordination. For example, the improved quality of incoming raw materials and component parts will reduce the need for reworking and thus keep operations costs low (Menon et al., 2005). Thus, we can say that operations costs affect relationship value stronger for the product offering than for the service offering.

6. Conclusions

Research Contributions

The current study made some contributions to the theoretical body of relationship marketing. First, it integrated the consequences of relationship value into the framework developed by Ulaga and Eggert (2006), which defined value drivers according to the dimensions of both benefits and costs. Secondly, it explores the outcomes of relationship value with respect to two dimensions of relationship – length and intensity. The influences of relationship value on relationship continuity and enhancement are investigated. Consequently, this study investigates the antecedents of relationship value according to two basic dimensions - relationship benefits and relationship costs – and investigates the influence of relationship value on relationship continuity and enhancement. Thirdly, previous works investigated relationship marketing only for the manufacturing or service sectors. The current research integrated offering types into the model as a contextual variable, according to Palmatier et al. (2006). Customer perceptions for both product and service providers are examined simultaneously to verify the different effect of relationship marketing for product and service sectors.

The empirical results reveal that the relationship benefits have greater effects on relationship value than relationship costs do. This finding is the same as the research result of Ulaga and Eggert (2006). On the other hand, the results of this study prove that relationship value has a significant and positive influence on both relationship continuity and relationship enhancement. In addition, the offering type does have a moderating effect on the correlation between relationship benefits (costs) and relationship value. For product suppliers, operations benefits offer the strongest potential for differentiation. The sourcing benefits rather than core benefits also have a significant effect on relationship value. For service providers, sourcing benefits offer
the strongest potential for differentiation, and core benefits have a stronger impact on relationship value than operating benefits. These findings are different from those of Ulaga and Eggert (2006) and Barry and Terry (2008).

Uлага and Eggert (2006) collect data from U.S. manufacturing firms. This study uses the Taiwan ICT industry as an example, attempting to let the enterprises in this industry understand what the key value drivers are for product and service offerings, from the customers’ point of view. It further aids the supplier in this industry in adopting effective marketing strategies to gain a competitive advantage.

Managerial Implications

Relationship marketing is a kind of business management philosophy, a kind of strategy focused on attracting, maintaining and improving customer relationships. This study suggests that relationship continuity and enhancement depend on the creation of relationship value. Our findings reveal that relationship benefits display a stronger potential for differentiation than do cost considerations. That is, customers pay more attention to the benefits created by the supplier rather than lowering costs in the business relationship. Meanwhile, this study verifies that the correlations between relationship benefits/costs and relationship value are affected by the offering type. This means that customers expect different kinds and levels of benefits or the like to make different sacrifices for different offering types. Therefore, the supplier shall draw up different marketing strategies for different offering types.

For product suppliers, operations benefits and sourcing benefits offer the potential for differentiation, while the operations benefits are the more determinant factor. However, the correlation between core benefits and relationship value is not significant. As Hutt and Speh (2004) posit, the core benefits are the basic requirements the business marketer must meet to be included in the customer’s consideration set. Thus, core benefits are not the value drivers for differentiation but may be the prerequisite for establishing a business relationship. For the product supplier, it is still necessary to comply with customers’ requirements regarding quality and delivery. To further manage the customer relationship, the product supplier will try to understand the customer’s business better, be more flexible to accommodate customer’s changing needs so that the supplier can provide reliable support for the customer’s operations. In addition, in the sourcing process, the supplier shall promptly provide suitable information as per the customer’s requests, provide service support in a timely manner, maintain good personal interaction with customers so that customers are willing to raise and discuss questions at any time and let buyers feel they are treated as important customers. All of these conditions are customer concerns for operations and the sourcing process and are critical factors for maintaining and improving business relationships.

For service providers, sourcing benefits offer the strongest potential for differentiation as well as core benefits. Operations benefits also have a significant but weaker effect on relationship value. For customers usually involved in the process of providing services, their perceptions of the interactions determine their evaluations of the given service provider. If the service supplier can provide more considerate service support or maintain good interaction with buyers, buyers will feel that they are treated as important customers and will be more willing to communicate or exchange opinions with suppliers. All of these will have direct influence on service performance. In addition, the service supplier shall focus on the promptness and accuracy of the service offering as well as superior service quality. To further improve the customer relationship, the service supplier shall also try to understand the customer’s business better so that considerate and reliable support can be provided for the customer’s operations. All
aforementioned matters will create high customer value and therefore can be deemed as effective marketing actions in the service offering.

Research Limitations and Directions for Future Research

This study tries to validate the antecedents, consequences and moderator of relationship value based on the past literature with regard to relationship marketing and relationship value. Although much effort has been made to ensure objectivity and precision, there are still some limitations. First, this study only considers the offering type as a moderator; it does not explore any other possible moderators. Future research may include other possible moderators, such as product category or industry, into the framework to conduct an empirical study. Secondly, it only considers the ICT industry as a research object and therefore cannot generalise the findings by applying them to other industries. The research may apply this model in other industries in the future. Thirdly, this study conducts the investigation from the buyer’s perspective to examine the business relationship. A supplier’s point of view might be different. Future research may examine potential gaps in both parties’ value perceptions. Finally, due to the limitation of industry, this study only collects 108 copies of questionnaires. The small size of three sample limits the methods employed to analyse the survey data. Future research may enlarge the samples and employ more sound tools, such as a structured equation model, to test the research model and moderating effect.

References


