

Identifying Antecedents and Outcomes of Relationship Value between Buyers and Suppliers in Vietnam's Electrical Equipment Industry.

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Abstract

The relationship value between buyers and suppliers in the electrical industry is important for both sides. The questions are how to improve and maintain their relationship value with their partners in drastic competition market. To answer these questions, the concept of the creation of the relationship value, the relationship value interaction between relationship value and firm performance were addressed in this research. The model and hypothesis were constructed basing on literature review and qualitative study. 410 firm samples were collected for data analysis to build model and to test hypothesis. Cronbach's Alpha was used to test the scale reliability. Exploratory Factor Analysis (EFA) also was implied to check the unidimensionality and discriminant validities. Confirmatory Factor Analysis (CFA) was applied to check scales reliability and validity. One of important methodologies was applied SEM to check the model fit. The results show that there five four factors that affect the relationship value: Product support, Service support, delivery performance, supplier know how and personal communication. These factors positively affect the relationship value between buyers and suppliers in the market. The finding also proved that there is high relation between Relationship Value and Firm Performance. However, one of factors that not influence the relationship value is "Time to Market". The result also shows that when the relationship value is impacted by one of the five factors above, that influence to firm performance. And there is also a positive interaction between relationship value and firm performance. Finally, the findings shall be applied in management for building sales and marketing, production strategies to improve the relationship value and firm performance, to maintain and value the key suppliers.

Key words: Relationship Marketing, industrial marketing, relationship value, firm performance, value creation.

1. Introduction:

In Vietnam, there are few big electrical suppliers from multinational companies. They have high quality products, latest technology and high standard products. Therefore, local companies find it difficult to compete against them in areas such as product quality, product specification, product standard, service quality, salespersons, expertise and global relationship.

Vietnam needs a significant amount of equipment to meet the production goals and to optimize use. The electrical equipment industry is mainly multi-nationality companies. However, there are not so many local companies can produce electrical equipment to meet international standards. This leads to issues that the electrical equipment industry being controlled by foreign companies. Therefore, the buyers can easily choose their products and services and switch to international brand names.

Vietnam Electrical Equipment suppliers often try to involve in as much as possible to get business with buyers. They also pay significant time and money to get orders. When they get the deal, they don't know how to maintain their relationship with buyers. After long time business transactions, they often lose orders against their competitors. Because they don't know how to maintain relationship with their buyers.

Besides, local companies also have to compete with Chinese electrical suppliers. When comparing Chinese electrical equipment suppliers with local suppliers, Chinese supplier price is very competitive prices. It leads to problems that the market is drastic competitive and disorderly. Therefore, local companies are facing with Chinese Manufacturers get the market share and survive in the market.

In business to business aspect, the relationship is very important for suppliers. The relationship value is built on communication of salesperson. In Vietnam, many companies don't care much staff's selling and communication skills. In reality, companies recruit salesperson with high selling and communication skill they often get good revenue. In fact, many local companies do not focus on these matters. One things that local companies pay low salary. Therefore, they cannot have good salesperson to work for big projects as multinational companies are applying. If local companies want to grow the revenue they must change their policy recruitment and give good training courses for their sales staff.

The electrical equipment market of Vietnam is very highly competitive and untidy. Because there many electrical equipment suppliers from high quality products to low quality products and the price is difference among suppliers. Therefore, it is very hard for buyers to make buying decision to meet their requirement. They buyers need more time to select the right suppliers. They do not know how to choose the right products & services among suppliers.

In order to generation electricity to meet the demand of use for industrial and residential use sectors, the Vietnamese has been investing significant capital for building thermal and hydro power plants. The Vietnamese government bases on the value of tender to make decisions. The government do not care much about the technology and suppliers. Therefore, some projects have no high technology or increased use of capital at the end of project. One of reasons is the commitment of suppliers from China. Therefore, investors must consider well the brand name and technology aspect as well as the well-known suppliers.

To understand how this relationship value is important for their business is very difficult in very competitive market, this investigation will be conducted to answer questions that concern buyers and suppliers who are interacting in Vietnam's electrical equipment industry market. Thus, the research objectives of this study are as follows:

Objectives and questions

To identify antecedents impacting on the relationship value. What are the impacts of antecedents on the relationship value? To determine the agreement between relationship value and business performance. What are the determinants outcomes of the relationship value? To determine outcomes of the relationship value. What are the determinants of the agreement between relationship value and business performance? To examine the business performance for the buyer. What are the effects of the business performance for the buyer? To examine the business performance for the supplier. What are the effects of the business performance for the supplier? To offer possible ways to improve the buyer and supplier relationship. What are the ways that play an important rule to improve the buyer and supplier relationship?

Significance of the Study

The outcome of this research will offer buyers and suppliers a foundation and guidelines to build their relationship stronger and stronger. Besides, the study results also help suppliers obtain key supplier status against competitors. For the buyer side, the outcome of this research helps the buyers evaluate their relationship value for existing relationships. Overall, the outcome of this research can help companies in b2B to have a solid background to design sales and marketing strategies to gain advantage against competitors to increase position in the market in Vietnam. The result of this research also helps enterprises to implement buyer and supplier relationship knowledge to their management and to increase sales revenue and improve their position firm in the competition market in the global economy.

2. Literature review:

1) The Relationship Value

The relationship cannot set up one side if it is expectation synergies from two sides. The long-term buyer-seller relationships are formulated because the partners want synergies together their value cannot be achieve alone [1]. Business partners share resources, technology and knowledge to improve their competitive advantage against their competitors. This was called the process value creation [2]. The customer values can be mentioned like the trade-off between benefits and lost in exchange in the market [3]. The relationship matters go far on the simply financial aspects. The sacrifices have both the aspect of economic costs and nonmonetary forms [4]. The first proposal on relationship value has conducted by [1] and [5]. In order to survive and succeed in the market, the buyer is considered as the key point in the market, "We now live in a buyer economy where the buyer is king". This is a result of production overcapacity. It is buyers, not goods, which are in short supply" [6]. In a dynamic market, relationships between suppliers and buyers are secured to help suppliers to avert crises. Suppliers cooperate with customers to possessing leading technology and to specialize in products to provide benefits in furthering innovation in product and production processes [7]. Buyers, on the other hands, help suppliers to enter new markets and establish commercial relationships as well as open the market connections through interaction. Buyers provide suppliers with information on management and the market to enable sellers to adapt to environmental changes and experienced buyers help suppliers to reduce time, expenditures, certification procedures and inter-firm negotiations [7]. Consequently, the relationship theories relate to economics, social and behavioral science [8]. As a result, "relationship value is subjective, multidimensional construct conceived as trade-off between benefits and sacrifices where perceptions are relative and which evolves with time [9]. In business to business, the support of suppliers is important because that will bring some effect on economic result for customers [10].

2) Creation of Relationship Value

The creation value is source for competitive advantage in the market [11]. The buyers and suppliers know how to create the ideas to build the relationship value with their partners. When the supplier create relationship value with buyers that lead to increase the relationship with buyers [11]. The creation also brings more responsibilities to the partners in the market. Particular in the market, buyer value is as key point in marketing management [9]. Positive relationship between buyers and suppliers that creates value. It is important for organization to maximize the value added from this relation. An increase in the total value can benefits both parties. When the supplier adds new value for the current process, this benefits the buyers, leads to the rise in the buyers' ready-to-pay and as a result, create more economic benefits for suppliers [12]. There are many ways to create the value for the relationship between the buyers and suppliers. The value will be created for each stage of the chain. However, the value will be

added to the buyers with different level. The relationship value is how the best price that suppliers offer for their suppliers, the value what buyers receive from products and how about the quality of products that buyers can get [11]. "(1) Value is low price (2) value is whatever buyers want a product or service, (3) value is quality buyers get for the price suppliers pay (4) value is all that buyer get for all that suppliers give" [13]. According to research conducted by Ulaga & Eggert, the quality of product, delivery performance, service support, supplier know-how, time to market and personal interaction affect to the relationship value between buyers and suppliers [14]. In the B2B market, the support from supplier will impact on the business performance for customer. The profitability of the customer is affected by the supplier's business process such as ordering, storing, manufacturing, quality control and payment [15]. The practices function both in terms of operational efficiency and in terms of business effectiveness. The practices support is either the growth of company and capacity of revenue-generating or level of cost. This function has positive effects on revenues and costs that is dependent of how well customers are supported by the suppliers [15]. Value creation entails the total value and it created in a collaborative relationship and is seen as a win-win solution. Relationship value is the result of synergies and joint efforts that accelerate the learning curve and conflict resolution in a relationship and simultaneously promote mutual commitment [12]. There are relationships among complementary resources, asset specificity and relational governance mechanisms on creating value for the suppliers and the buyers. These issues are also supported by some effective ways to develop advantage of competition and they also value the effects of relationships on performance [12]. It is vital to maintain separately the production stage from value creation stage because they are separate in nature. Production involving transforming and integrating resources into product [16]. Value creation, on the other hand, involves adding value from the resources [16]. The popular factors are considered by decision makers in the evaluation and selection of the key supplier that include: delivery, price, manufacturing capacity, relationships, flexibility, service support, management, cost, risk, technology quality, finance, management, safety, technology, environment factors, research and development plus reputation [17].

3) Dimensions of Relationship Value

Product Support and Relationship Value:

The price is not more important for offering value to buyers than quality of product when the expectation of buyers to the quality of product exceeds given price. Within industrial marketing, there are many points of view about the product quality [18]. In the industrial market, the quality product is also shown in how the technical specifications are complied with the required standards. The buyers think that the more the products comply with the specifications, the better the products are [14]. The buyers in the industrial market mention the quality of products as delivery of consistent quality level over time. In general, suppliers need to provide buyers products with high quality, high reliability, stability and consistency from time to time [14]. The knowledge transfer content has a positive and significant relationship with the buyer firm's performance [19]. Theoretically, quality of product is to satisfy customer needs on all relevant attributes [20]. The quality consists of the elements that can improve the quality of suppliers in the buyer-supplier relationship [17].

Hence, it is important that the supplier's product quality and quality control process capabilities remain high certain level or above to meet the customers' demand. Such as; the type, quantity, and quality of the delivered products must be satisfied with schedules for delivery. Suppliers must have a product quality certification with public credibility to meet buyer's request if buyers need [17].

Service Support and Relationship Value:

Service is deeds, processes, and performance [13]. In addition, the suppliers also help the buyers to install the machines, to fix the machine breakdowns [14]. The equipment service providers are called after-sales service: timely repair services, preventative maintenance, and technical support [21]. As product and service are two elements that meet the buyers' expectation and what the suppliers should provide to satisfy the buyers [11].

On the other hand, customers' perception of service quality is a key factor leading to future opportunities, encouraging the existing buyers to give positive word of mouth and to appreciate having the buyer and supplier relationship with the supplier. Besides, good investments in the delivery of service and the quality of the service systems necessarily enhance the quality of the buyer-supplier relationship in the market [22]. The core service quality is fundamental for supporting the business activities and service support [23]. That may influence the process of activities and organization objectives [24]. The service factor shows the ability to meet customers' needs promptly and the ability to provide a service warranty to customer's request [17]. The suppliers may try to meet customers' demands for service support to maintain or improve relationship performance between the buyers and suppliers [17].

Delivery Support and Relationship Value

Delivery is essential to build the relationship with the buyers [25]. What buyers perceive as benefits and what they pay sacrifice that is the receipt of recognition of Buyers' cost that they incur when they buy goods or services such as the cost of acquisition, installation, transportation, order handling, repairs, and maintenance and risk of failure or poor performance [11].

In some cases, the buyers require the suppliers to deliver the products on time. The suppliers will be fined when they delay the delivery of products. In general, the delivery is on-time delivery, flexibility and consistency [14]. In the past, the suppliers have had similar delivery capabilities. The relative importance of shipment delivery is less significant than the awareness of the customer for the assistance and service. These factors is noted [17]. The suppliers must manage and monitor the duration that the supplier places to the customer's destination. When the order is shipped, and received to meet a punctual delivery time as the schedule of shipping. Therefore, suppliers need to be flexible to changes in the delivery schedule as the buyer's request [17]. Delivery performance impacts on the value of manufacturer-distributor relationships [26]. The performance of delivery depends on three major factors, comprises accuracy, flexibility and on-time [14]. Accuracy is also an important characteristic of delivery performance to help the buyer saving time and effort [27]. For the project, delivery delay is one of serious problems. The project coordination from engineering work to supply chain is to avoid the project delay [28].

Supplier Know-how and Relationship Value

In many ways, the suppliers' know-how is valuable for the buyers. The buyers think that their suppliers are not only responsible for their products but also related products. [14]. In general, the suppliers' know-how provides many changes to bring value to the relationship between suppliers and buyers. This approach will help the suppliers to build a trust in their buyers. Trust is important for relationship value between the buyers and the suppliers [22].

Time to Market and Relationship Value

Concept of "Time to market" is an important value creation in supplier-buyer relationship. Thus, in order to reduce the time to design a buyer's production, a supplier must help a buyer by providing new products, new technologies or committing the delivery to a buyer. After the installation of the products, a supplier should help a buyer to test the products or to guide to them to operate the products. The main point here is how the suppliers reduce "the time to market". It is beneficial for both the buyers and the suppliers. Therefore, they can build their relationship value in a competitive market [14].

Personal Communication and Relationship Value

Communication is fundamental for a business relationship [29]. The communications along with commitment and conflict handling, has strong effects on satisfaction of buyers. Therefore, communications, signaling commitment, and problem solving that can increase the cooperation seem to be expected and warranted by the buyers [30]. Communication can reduce conflict, increase co-operation, and improve trust [31]. The trust is one of elements of building a sustaining relationship [32]. One element that can build the relationship value is the sales-person. The salesperson is the center of the partnership between the buyers and the suppliers [33]. Personal interaction should be developed at all levels of an organization. That can help both sides improve the relationship in the business [9]. The quality communication is the effective way to exchange behavior environment that suppliers can increase buyer's satisfaction [34]. In fact, over-communication can lead to detrimental effect on the relationship since supplier could see too much communication as interference to their businesses [19].

Firm performance

The performance concept is the ability to assess the level of success of a business organization for small or big company. SMEs can be evaluated in terms of employment level, firm size, working capital strength as well as profitability [35]. The major benefits from close involving suppliers increased revenue or decreased costs [36]. However, the question is how a buyer perceives the value costs [36]. A supplier's performance depends on a buyer's behavior. The delivery schedule changes, engineering, machine breakdown. The drive supplier behaviors to effect on their activity [37]. Business performance was management [38]. Performance business can be defined as overall index of firm ability to meet their stockholders. The performance be measured in terms of financial as well an operational indicators [39]. The relative performance was measured on difference aspects of business such as

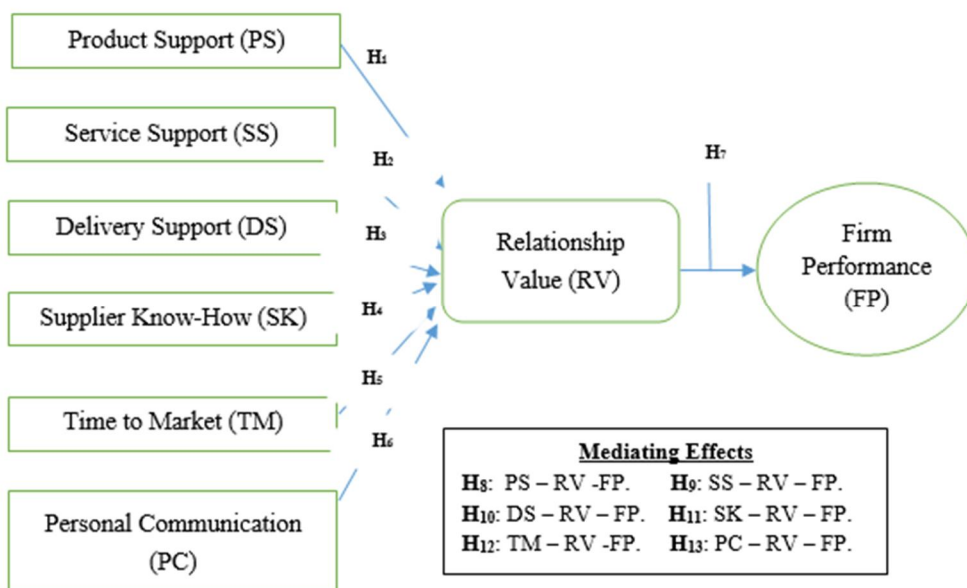
market share, return on investment, service quality, customer satisfaction, product quality, employee satisfaction, product innovation and process innovation. [39]. It was Inclusion that the growth and profitability were two factors to measure the firm performance [39]. Major benefits from closely involving suppliers increased revenue or decreased costs [36]. The relationship between buyers and suppliers become increasingly collaborative in nature. Both relationship and business outcomes will increase, too [36]. As mentioned in the literature review, these items affect the relationship value between the buyers and the suppliers in the electrical industry. However, the question is how a buyer perceives the value. The relationship value is based on what the buyers receive [40].

How the buyers receive the value in their relationship with the suppliers is also important. A supplier's performance depends on a buyer's behavior [37]. The delivery schedule changes, engineering, machine breakdown... drive supplier behaviors [37]. The financial performance dimensions consist of repeat orders, increasing profitability and growth. It shows that the successful relationship impact on directly and positively measurement of financial matter and market performance from the side of buyers. The competition in the market competitive is a result that firms alone can control their performance in the market. They can work with their partners to improve ability and opportunity to have competitive issues [41]. The consequence of competition in business is constant in the ability to influence the market performance. In order to gain strategic position in the market, it is important for a company to work with partners. A successful relation impacts positively on the company's financial and market performance [41]. In strategic business management, the value chain is essential for business to construct a business case and analyze the impact of these activities on gaining the strategic competitive advantage such as the cost and the values [42]. The concept of performance is important for assessing the degree of success of an organization. criteria for evaluating performance of SMEs include financial factors such as profitability, growth, firm size and non-financial factor such as staff turnover rate, employment level, customer loyalty [35]. Accordingly, it is not enough that buyer or supplier attempt to become more productive, separately. But they should understand that they should aim to become productive together [10]. Relationship value depends on three critical factors comprising trust, commitment and satisfaction [43].

There is relationship between relationship value and commitment for both sides [43]. There is positive relationship between commitment and relation value, the higher relationship value, the higher commitment [44]. The relation value affects to satisfaction of their relationship. For suppliers, the satisfaction is one of roles for expansion of relationship with buyers [43]. When the relationship is considered valuable, it generates not only the satisfaction, the commitment, affective are created when the relationship is value. Top management can demonstrate excellence in both the competitive aspect and positioning in the market place and to build organizational context [45]. The climate is an exchange between buyer and supplier to increase buyer's satisfaction with the supplier's performance [46].

3. Methodology

Based on the empirical and theoretical literature review, a conceptual model as shown in Figure below:



Research Methodology Process

The draft questionnaires are drafted depended on the literature view. The contents of each questionnaire are derived from the definitions of problems and matters of literature. After that, the draft questionnaires are asked and interviewed by experts in the electrical field. The purposes of depth interview are the comparison between the literatures that have brought from oversea to fit local aspects. After that, the draft questionnaires are modified and adjusted to the reality of Vietnam. After this stage, the completed questionnaires are finished. Following this step, the questionnaires are conducted quantitative study by checking reliability Crombach Alpha. After that the questionnaires are re-valuated by Crombach Alpha and Exploratory Factor Analysis (EFA). Next step, the final questionnaires are conducted officially study by Confirmatory Factor Analysis (CFA) and Structural Equation Modelling (SEM).

Questionnaire Design Method

With the purpose is to conduct the quantitative study, based on the research literature review, and original questionnaires from [9] and [47]. The initial English draft of scales items and questionnaires are designed. In this research, a five Likert-scale question was used to construct the questionnaire based on the literature. The Likert-scale was designed as the followings from 1 = "strongly disagree" to 5 = "strongly agree" The depending on the results of questionnaire, the researcher will process the questionnaire based on software to test the hypothesis of conceptual model. Besides, the open and close questions are applied to know about geographic of study.

Pilot Study

The pilot study is used in two different ways to research in social science It can refer to so-called feasibility studies which are small scale version and trial test [48]. However, a pilot study can also be the pre-testing or testing the particular research instrument [49]. One of the advantages of conducting a pilot study is that to warn about where the main of research project could fail, where research protocols may not be followed to framework of study , or whether proposed methods or instruments are inappropriate or complex [50]. The qualitative sample size may best be determined by the allotted time, available resources and objectives of study [51]. It is better that it can help to investigate the time, money for the study [52]. In this research, pilot study was undertaken. The purposes of this study are to explore antecedents and outcomes of relationship value between the buyers and the suppliers and to study the understanding of the relationship between the relationship value and the firm performance. The questionnaires are collected checked the validity, reliability before main collected data In general, 10–20% of the main sample size is a reasonable number for conducting a pilot study [49]. Therefore, the sample size is collected enough sample size for pilot study that is 77 collected questionnaires with assumption that 20 % of main sample size 385 [53]. 77 collected questionnaires are enough to conduct pilot test. The sample size is recommended from five to 25 [54] and [55] suggests at least six.

Table 1 Reliability

| Instruments | Crombach's alpha |
|------------------------|------------------|
| Personal communication | 0.899 |
| Service support | 0.871 |
| Delivery support | 0.862 |
| Firm performance | 0.853 |
| Supplier Know-how | 0.849 |
| Product support | 0.845 |
| Time to market | 0.832 |
| Relationship value | 0.830 |

Table 1 shows reliability results of pilot study in which indicated that Crombach's alpha reliability all variable factors are satisfied the standard. The results was proved that all measurement scales had high reliability from 0.830 to 0.899 and the value of Corrected was from 0.3 to 0.9. Therefore, all variables were reliability for next analysis.

Population and Sample Selection

The study focuses on the electrical contractors and end-users. Therefore, the target population for this research is the electrical equipment buyers in the electric industry. Rules of thumb for determining sample size was proposed by (Roscoe, 1975). The sample size should be enough specially to conduct the research when the desired outcome is to be generalized to the population selected. Therefore, the sample size from 30 to 500 that is enough for the majority of researches [56]

Data Collection Method

Data collection of this study is dependent on the primary and secondary data from collection source. The primary data consists of the information found by the researcher on the variables selected for the study; while secondary data is collected from the already existing sources [56].

Thus, the primary sources will consist of the information collected by a designed questionnaire for the targeted respondents. The questionnaires were designed as an open ended, close ended and five Likert Scale questions to get the information. Via one on one in-depth interviews with managers or directors from buyer's side is conducted in order to get enough sample size for the investigation. On the other hand, the secondary sources consisted of the information found from past annual reports, research reports, business journal, books, internet, articles, magazines and newspaper and other published sources. Additionally, data can be collected in a variety of ways such as interviewing in person, telephone interviews and computer-assigned interviews [57]. In this research, interviews in person, emails and post mails are also used for data collection. Before conducting data collection, five students have been selected from marketing department of economic university. Five students who were trained carefully. These students are trained half day about how to give the questionnaires and explain the purpose of the study as well as to explain contents of questionnaire when respondents rise the questions. After checking reliability of questionnaires, the questionnaires are used to conduct main study. In the main study, the researcher used yellow pages to collect data. The researcher randomly selected companies from the buyers list of the Yellow pages [58] and [59].

Respondent rate

In the main study, total of 950 the questionnaires to respondents depended on the customer lists from yellow page. From 30.6.2017 to 30.7.2017 total 950 questionnaires were sent out. After 02 months, total of 430 samples were collected. The percentage of return was 45 %. After checking errors from collected 430 samples, there were 20 questionnaires that were ineligible (4.6%). 410 samples were used in the study.

Data Analysis Technique

Scale Unidimensionality

Before analyzing the data, exploratory data analysis with principal component option was used to check the unidimensionality of independent variables. One item was accepted if it was loaded on one component. If one item has any factor loading that is smaller than 0.5, it was rejected [60]. The total variance is only accepted when it is higher than 50%. KMO value and Sig. were also considered. Un-dimensional validity be understood that all items in a scale fit together [61].

Scale validity

Convergent validity: Convergent validity can be established when there is a high correlation between two different sources responding to the same measure [57]. Composite reliability (CR) and average variance extracted (AVE) applied to check the convergent validity. CR should be greater than 0.5 [62] [63]. CR and AVE have been commonly used to evaluate the degree of shared variance between the latent variables of the model [64]. Discriminant validity: Discriminant validity can be established when two distinctly different concepts are not correlated to each other [61]. After Crombach's alpha was applied to access the consistency of all scales.

In the next step, all remaining variables were assessed on the discriminant validity. The Exploratory Factor Analysis (EFA) with principal component analysis and varimax rotation was deployed. Item- total correlation smaller than 0.3 that will be deleted [65]. The Variables with factor loading coefficient were lower than 0.4 were eliminated [66]. If the variables those were loaded more than one component were also eliminated. The result was also accepted if total variance was higher than 50%.

On the other hand, the consistency of scale items was measured. The consistency shows how well items hang together as a set. Cronbach's alpha is commonly used to measure of reliability. Cronbach's alpha is a reliability coefficient that indicates how well the items in a set are positively correlated to one another. The closer Cronbach's alpha is to 1, the higher the internal consistency reliability [57]. Cronbach's alpha for acceptable reliability is equal or higher 0.5 [62]. After checking the completion, correction and the elimination of the errors of the collected, the data were entered into SPSS Amos. In this research, SPSS & AMOS version 23 is applied to process the data for the study and test the model fit. The data were processed by Cronbach's alpha and EFA. The remaining variables were checked by Confirmation Factor Analysis (CFA) and tested model fit by AMOS software. AMOS is used to perform Structural Equation Modeling (SEM). CFA is a special case of the structural equation model (SEM), also known as the covariance structure [67]. Chi square is to assess the magnitude of discrepancy between the sample and fitted covariance matrices. AGFI Adjust the GFI based upon degree of freedom. Tend to increases with sample size NFI to assess the model by comparing the χ^2 value of the model to the χ^2 of the null model. The Goodness-of-Fit statistic (GFI) was created by [68] as an alternative to the Chi-Square test and calculates the variance proportion that is account for by the covariance of estimated population [69]. GFI is used to calculate the proportion of variance that is accounted for by the estimated population covariance [70]. The regression structure analysis is popular for research [65]. The model was measured to fix with the reality market. Chi square index and Chi-square is adjusted (CMIN/df). Chisq/df is used to estimate the process that is dependent on the sample data Source [70]. The Chi-Square value is the traditional measure for evaluating overall model fit and as the assesses correlation of discrepancy between the sample and fitted covariance matrices [71]. A good model fit would give an insignificant result at a 0.05 [72]. Comparative Fit Index (CFI) assumes that all latent variables are not correlated between null and independence model and compares the sample covariance matrix with this null model [70]. A cut-off criterion of $CFI \geq 0.90$ was initially advanced. However, the studies have shown that a value greater than 0.90 is needed to ensure that specified models are not accepted [71]. The values for this range between 0.0 and 1.0 with values closer to 1.0 indicating good fit a value of $CFI \geq 0.95$ is recognized as the good fit [71]. Tucker and Lewis index (TLI) was introduced by [73]. The value of TLI is larger than 0.9[71]. Mean Square Error Approximation index (RMSEA) is sensitive to the number of estimated parameters in the model. It will choose the model with the lesser parameter number [70]. One of the greatest advantages of the RMSEA that is the confidence interval to be calculated around its value [74]. RMSEA is in the range of 0.05 to 0.10 that is considered an indication of fair fit and values above 0.10 indicated poor fit [74].

4. Findings

The reliability scales was measured by Cronbach's Alpha value. The value of Cronbach's alpha from 0.60 to 0.90, the variables reliability are valuated [57]. Before conducting Exploratory Factor Analysis (EFA), all scales must be evaluated the reliability. The results of scale reliability were showed as the following.

Table 2: Results of Variables Reliability.

| Cronbach's Alpha | Value | Note |
|------------------------|-------|---------------------|
| Product support | .820 | |
| Service support | .804 | |
| Delivery support | .800 | |
| Supplier Know-how | .822 | |
| Time to market | .830 | |
| Personal communication | .893 | Deleted item (PC24) |
| Relationship value | .934 | |
| Firm performance | .774 | |

The value of all Cronbach's Alphas was also higher than 0.7 from 0.774 to 0.934. Besides, almost value of the highest correlation was 0.3 to 0.9. However, the value of PC24 at Corrected Item-Total Correlation was 0.299 that lower than 0.3 Therefore, PC24 was deleted. After deleting PC24, the Cronbach's Alpha of Personal Communication was 0.893 as table 2.

Exploratory Factor Analysis (EFA)

The Exploratory Factor Analysis EFA was conducted to assess the the reduction of 33 observation variables to reduce variables to reflect specific correlation of among variables. The result of analysis was conducted: Assessment of KMO: To conduct the analysis of EFA, the collected data fixed with condition thorough KMO and Bartlett's. Bartlett's Test. This was used to test hypothesis H_0 that was all variables not correlation in the general it meant that General matrix was unit matrix. KMO ration was used check sample size to fix with analysis or not. Bartlett's Test less than 0.05 to reject H_0 and $0.5 < KMO < 1$ meant that the analysis was acceptable.

Table 3: KMO and Bartlett's Test

| | | |
|--|--------------------|----------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .911 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 6697.440 |
| | df | 561 |
| | Sig. | .000 |

The table 3 indicated that KMO was 0.911 larger than 0.5 and Sig of Bartlett's Test was 0.000 less than 0.05. The results indicated that 33 observation variables were correlation together and accepted for factor analysis.

Rotation matrix for items was method of rotation with Promax to minimum the number of observation variables those have big ratio on the factor. The value of variables were larger than 0.5 those used to explain. Analysis of Exploratory factor analysis (EFA) kept observation variables those have factor loading larger than 0.6 and loading on group [60]. The results of Exploratory factor analysis (EFA) showed that there were 8 factors and not variables have loading factor less than 0.5.

Two standards to identify a number of factors. The Kaiser (Kaiser Criterion) was to identify factors from scales and the value of Eigenvalue was presented for vary that explained for each factor. Only factor has of Eigenvalue larger than 1 was kept for SEM.

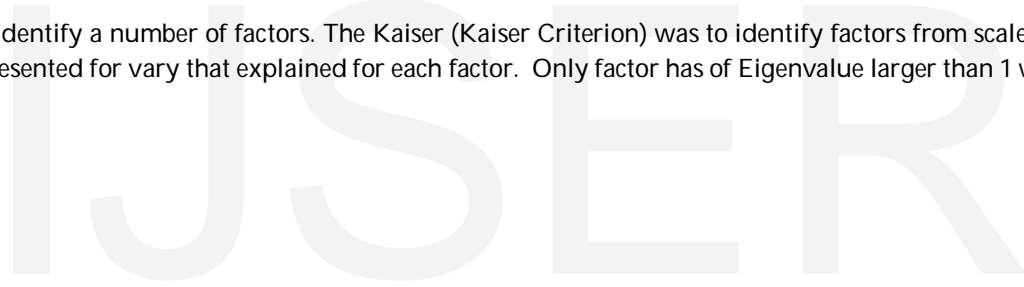


Table 4: Result of Factor Analysis

| OBSERVED ITEMS | FACTOR LOADING | | | | | | | |
|----------------|----------------|-------|-------|-------|-------|-------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| PC21 | 0.803 | | | | | | | |
| PC20 | 0.790 | | | | | | | |
| PC22 | 0.724 | | | | | | | |
| PC23 | 0.739 | | | | | | | |
| PC25 | 0.787 | | | | | | | |
| PC26 | 0.727 | | | | | | | |
| PS01 | | 0.718 | | | | | | |
| PS02 | | 0.646 | | | | | | |
| PS03 | | 0.630 | | | | | | |
| PS04 | | 0.724 | | | | | | |
| PS05 | | 0.715 | | | | | | |
| SK13 | | | 0.730 | | | | | |
| SK14 | | | 0.746 | | | | | |
| SK15 | | | 0.707 | | | | | |
| SK16 | | | 0.738 | | | | | |
| SS06 | | | | 0.733 | | | | |
| SS07 | | | | 0.688 | | | | |
| SS08 | | | | 0.668 | | | | |
| SS09 | | | | 0.701 | | | | |
| RV27 | | | | | 0.851 | | | |
| RV28 | | | | | 8.818 | | | |
| RV29 | | | | | 0.899 | | | |
| RV30 | | | | | 8.820 | | | |
| FP31 | | | | | | 0.651 | | |
| FP32 | | | | | | 0.665 | | |
| FP33 | | | | | | 0.696 | | |
| FP34 | | | | | | 0.787 | | |
| TM17 | | | | | | | 0.857 | |
| TM18 | | | | | | | 0.758 | |
| TM19 | | | | | | | 0.752 | |
| DS10 | | | | | | | | 0.782 |
| DS11 | | | | | | | | 0.685 |
| DS12 | | | | | | | | 0.748 |
| EIGENVANLUES | 9.647 | 2.570 | 2.219 | 1.948 | 1.853 | 1.724 | 1.203 | 1.137 |
| CUMULATIVE % | 28.05 | 6.494 | 5.590 | 4.496 | 4.212 | 3.710 | 2.557 | 2.273 |

Table 4 showed that all variables were listed out 8 group and each group was represented for each factors that all variable has value larger than 0.5. Besides, The Appendix 35 showed that 8 groups explained 57.377% of changing of data. Cumulative % was 57.377 % larger than 50% and each group was contributed % and Eigenvalue of all factors were also larger than 1: Personal Communication (PC) was 28.05% (9.647), Product Support (PS) was 6.494 % (2.570), Supplier Know-How (SK) was 5.950 % (2.219), Service Support (SS) was 4.496 % (1.948), Relationship Value was 4.212 % (1.853), Firm Performance was 3.710 % (1.724), Time to Market was 2.557 % (1.203) and Delivery Support was 2.273% (1.137). Therefore, the factor analysis was satisfied for next study. SEM is a method for confirmatory to a comprehensive means for validating the measurement model of latent constructs. The procedure of validating is called Confirmatory Factor Analysis (CFA). The CFA method has the ability to evaluate the Unidimensionality, Validity and Reliability of a latent construct [60]. Confirmatory Factory Analysis was conducted with 33 observable variables. The results has 8 reductive factor groups that measurement groups created the model to measure definitions and applied CFA to test the model fit with data study. The result of CFA as the following:

Confirmatory Factor Analysis (CFA)

Table 5 Summary of Assessment of Structural Model

| Indicator assessment | Value |
|----------------------|-------|
| CMIN/DF | 1.085 |
| GFI | 0.934 |
| TLI | 0.993 |
| CFI | 0.994 |
| RMSEA | 0.014 |

The table 5 presented that chi-square divided by its degrees of freedom (Chi square/df) CMIN/DF=1.085 (<2), Tucker-Lewis Index (TLI) =0.993> 0.9. GFI and CFI larger than 0.9, RMSEA= 0.014 (< 0.08) were met the requirements of standard. Overall, the model was fit with data study. Besides, scale reliability, convergent validity and discriminant validity and unidimensionality need to be considered.

Assessment of unidimensionality

According to [75], the level of model fit with date study that provided condition need and enough for observation variables to have except errors of correlation of observation variables . For a newly developed items, the factor loading for every item should exceed 0.5 For an established items, the factor loading for every item should be 0.6 or higher [60]

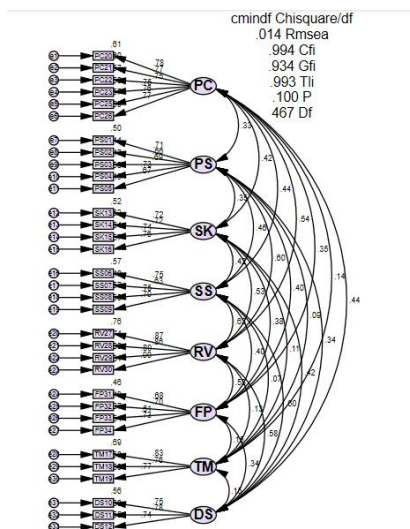


Figure 1 Factor loading

The figure 1 illustrated that all factor loading for every item exceeded the standard (0.5). Therefore, the study met the requirement of unidimensionality.

Assessment of Reliability

In this section, there are three issues that researcher consider reliability, convergent validity and discriminant validity. The value of Composite reliability (CR) to check the reliability CR should be greater than 0.7 [64].

Table 6 Result of Composite Reliability (CR)

| Factors | CR |
|---------|-------|
| PC | 0.893 |
| PS | 0.821 |
| SK | 0.822 |
| SS | 0.805 |
| RV | 0.934 |
| FP | 0.766 |
| TM | 0.831 |
| DS | 0.800 |

After using the excel formula from [76] to calculate the Composite Reliability CR. Researcher used to value of Standardized Regression Weights to calculate the value of CR. The table 6 showed that All value of each factors were larger than 0.5. Therefore, all factors were satisfied for Validity test.

Convergent validity

Convergent validity was valuated depending on the value of Average variance extracted (AVE), the Average variance extracted (AVE) was larger than 0.7 to prove that the scales was convergent validity [64]. The researcher has applied the formula from [77]. The excel formula created by [76] to calculate the value of Average variance extracted (AVE) and the value of Standardized Regression Weights of Appendix 41. The results of AVE were presented as the table 4-8

Table 7 Result of Average Variance Extracted (AVE)

| Factors | (AVE) |
|---------|-------|
| PC | 0.583 |
| PS | 0.478 |
| SK | 0.537 |
| SS | 0.508 |
| RV | 0.779 |
| FP | 0.465 |
| TM | 0.621 |
| DS | 0.572 |

Overall, the table 7 indicated that AVE of all measurement scales > or equal 0.5. Therefore, all measurement scales were Convergent validity.

Discriminant validity

The discriminant validity was measured by standards as the flowing: (1) assessment of correlation among factors that is difference 1 or not; (2) Comparison between square root of AVE with correlation of one factor against with the rest. Depending on the Table 4-14, Square root of AVE was calculated, and the result was presented as Table 7.

Table 8: Result of AVE square root

| | PC | PS | SK | SS | RV | FP | TM | DS |
|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| AVE | 0.583 | 0.478 | 0.537 | 0.508 | 0.779 | 0.465 | 0.621 | 0.572 |
| AVE ^{1/2} | 0.763 | 0.691 | 0.732 | 0.712 | 0.882 | 0.681 | 0.788 | 0.756 |

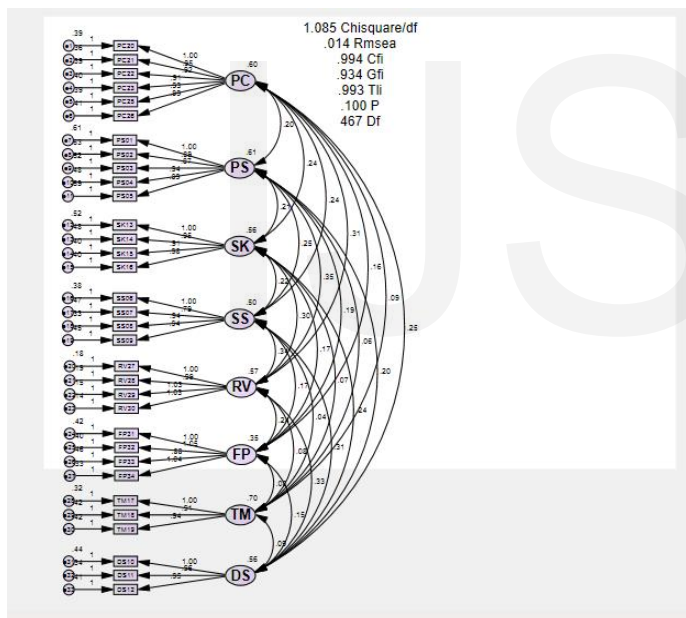
The table 8 was built with the purpose that was to make comparison between the value of AVE and Inter-construct correlation and the results were illustrated as below.

Table 9 Summary of Construct Validity Index

| | PC | PS | SK | SS | RV | FP | TM | DS |
|----|-------|-------|-------|-------|-------|-------|-------|----|
| PC | 1 | | | | | | | |
| PS | 0.331 | 1 | | | | | | |
| SK | 0.418 | 0.354 | 1 | | | | | |
| SS | 0.437 | 0.460 | 0.422 | 1 | | | | |
| RV | 0.536 | 0.595 | 0.525 | 0.634 | 1 | | | |
| FP | 0.347 | 0.399 | 0.380 | 0.397 | 0.529 | 1 | | |
| TM | 0.144 | 0.088 | 0.111 | 0.074 | 0.130 | 0.152 | 1 | |
| DS | 0.436 | 0.341 | 0.423 | 0.598 | 0.585 | 0.336 | 0.146 | 1 |

All items should have a higher loading on the defined construct than on any other construct, (2) the square root of the AVE for each construct should be higher than all the inter-construct correlations with the construct and the correlation of between any pair of constructs should below 0.80 [60].

The comparison the value between the table 8 and table 9, the result showed the value of square root of AVE were higher than Inter-construct correlation. Therefore, all measurement scale met the discriminant validity.



The Figure 2 CFA

The figure 2 showed the CFA after analyzing by AMOS with un-standardized

Hypothesis Testing

The analysis of the structural equation modeling with maximum likelihood estimation in AMOS 23 applied to test the hypothesized paths. The strong statistical power enhances our confidence in the results of hypothesis testing, which is based on the examination of the unstandardized coefficients and if all the hypothesized paths were significant at $p < 0.05$. After analysis CFA, SEM was applied to identify the level of relation among factors. SEM was conducted to analyze from conceptual model. After that, the conceptual model was adjusted to have better model. SEM has more advantages for testing hypothesis and model test against regression. Because SEM mentioned error of measurement. Furthermore, SEM also could be combined the latent factors with

measurement and could be considered all independent measurements and combined with conceptual model. The hypothesis was tested at 5% of level of significant

Hypothesis of study was the following:

- H1: There was a positive relationship between the product support (PS) and the relationship value (RV)
- H2: There was a positive relationship between the service support (SS) and the relationship value (RV)
- H3: There was a positive relationship between the delivery support (DS) and the relationship value (RV)
- H4: There was a positive relationship between the supplier know-how (SK) and the relationship value (RV)
- H5: There was a positive relationship between "Time to market" (TM) and the relationship value (RV)
- H6: There was positive relationship between the personal communication (PS) and the relationship value (RV)
- H7: There was a positive relationship between the relationship value (RV) and the firm performance (FP)
- H8: Relationship value (RV) mediated the Product Support (PS) to the firm Performance (FP)
- H9: Relationship value mediated the Service Support (SS) to the firm Performance (FP)
- H10: Relationship value mediated the delivery support (DS) to the firm Performance (FP)
- H11: Relationship value mediated the supplier know-how (SK) to the firm Performance (FP)
- H12: Relationship value mediated The Time to market (TM) to the firm Performance (FP)
- H13: Relationship value mediated the personal communication (PC) to the firm Performance (FP)

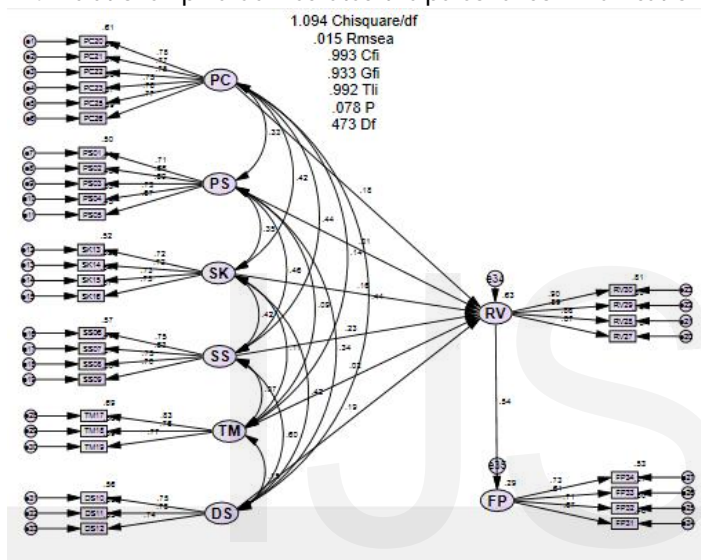


Figure 3 Path analysis with SEM 1

The figure 3 indicated the result of model: chi-square divided by its degrees of freedom (Chi square/df) = 1,094 (<2); TLI= 0.992 (> 0. 9); CFI = 0.993 (>. 9); RMSEA= 0.015 (<0.08). Therefore, the model was fit. After considering the level of model fit, the result of SEM was analyzed.

Table 10: Result of Correlation of SEM 1

| Correlation among factor | Estimate | S.E. | C.R. | P | Standardized weight |
|--------------------------|----------|-------|-------|-------|---------------------|
| RV <--- PC | 0.176 | 0.045 | 3.912 | 0.000 | 0.180 |
| RV <--- SK | 0.165 | 0.048 | 3.404 | 0.000 | 0.160 |
| RV <--- PS | 0.296 | 0.048 | 6.191 | 0.000 | 0.310 |
| RV <--- SS | 0.247 | 0.064 | 3.847 | 0.000 | 0.230 |
| RV <--- TM | 0.015 | 0.035 | 0.445 | 0.657 | 0.020 |
| RV <--- DS | 0.194 | 0.058 | 3.359 | 0.000 | 0.190 |
| FP <--- RV | 0.424 | 0.048 | 8.796 | 0.000 | 0.540 |

The table 10 presented that the relationship between RV and TM was not meaning of statistic. Because the significant level (5%) was 0.657 ($P > 0.05$). Therefore, TM factor was deleted. Therefore, the hypothesis (The H_5): There was a negative e relationship between "Time to market" (TM) and the relationship value (RV) was not supported.

After deleting the hypothesis (H_5) from the study, the study would be conducted to run SEM the second time (SEM) and the study was just 12 hypotheses: $H_1, H_2, H_3, H_4, H_6, H_7, H_8, H_9, H_{10}, H_{11}, H_{12}, H_{13}$.

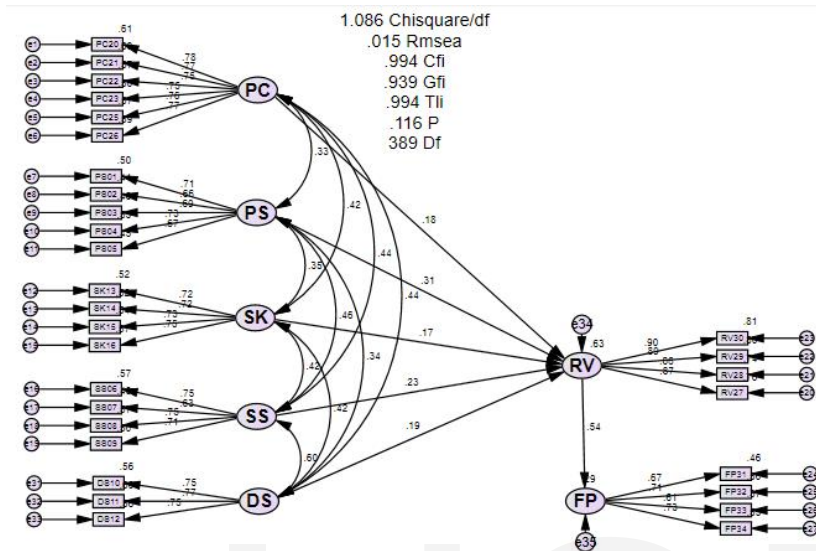


Figure 4 Path analysis with SEM 2

The figure 4 showed the result of model fit those included chi-square divided by its degrees of freedom (Chi square/df) = 1,086 (<2); Tucker-Lewis Index (TLI) = 0.994 (> 0.9); Comparative Fit Index (CFI) = 0.994 (>0.9); Root Mean Square Error of Approximation (RMSEA) = 0.015 (<0.08), probability value (P) = 0.116 >0.5 and Goodness of Fit Index (GFI) = 939 > 0.9 After considering the model fit, the result of analysis was checked as below:

Table 11: Correlation of SEM 2.

| Correlation among factors | Estimate | S.E. | C.R. | P | Standardized weight |
|---------------------------|----------|-------|-------|-------|---------------------|
| RV <--- PC | 0.177 | 0.045 | 3.962 | 0.000 | 0.180 |
| RV <--- SK | 0.166 | 0.048 | 3.419 | 0.000 | 0.170 |
| RV <--- PS | 0.296 | 0.048 | 6.202 | 0.000 | 0.310 |
| RV <--- SS | 0.246 | 0.064 | 3.838 | 0.000 | 0.230 |
| RV <--- DS | 0.196 | 0.057 | 3.407 | 0.000 | 0.190 |
| FP <--- RV | 0.424 | 0.048 | 8.793 | 0.000 | 0.540 |

The tables 11 and 12 showed that PC, SK, PS, SS, DS has clockwise relationship with RV. The ratio of each Factor: PC (0.180), SK (0.17), PS (0.310), SS (0.230), DS (0,190). Besides, RV impacted on FP with ratio that was (0.540).

Assessing the direct and indirect relationships between exogenous and endogenous latent variable is another important evaluation of a structural model (Henseler, Ringle, & Sinkovics, 2009). In this section, it assessed the significance of the mediating of (RV) in the relationship between (PC, PS, SK, SS, TM, DS) and (FP). Testing mediating effects in structural equation models examines the relationship between the independent variable and the dependent variable compared with the relationship between the independent variable and dependent variable, including the mediation construct [78].

Hair et al (2010) recommend that when testing mediating effects, researchers should rather follow [79]; [80] and bootstrap the sampling distribution of the indirect effect, which works for simple and multiple mediator models. Bootstrapping makes no assumptions about the shape of the variables' distribution or the sampling distribution of the statistics and can be applied to small sample sizes with more confidence. In addition, the approach exhibits higher levels of statistical power compared with the Sobel test. This study tests the mediation effect by via a bootstrapping procedure with a resample of 2,000 which is bootstrapping the indirect effect [79]; [80].

Table 12: Mediation effect of RV

| Hypothesis | Relationship | Std Beta | Std Error | t-value | Hypothesis Result |
|------------|--------------|----------|-----------|----------|-------------------|
| H8 | PC →RV→FP | 0.076 | 0.027 | 2.815** | Supported |
| H9 | PS →RV→FP | 0.126 | 0.034 | 3.706*** | Supported |
| H10 | SK →RV→FP | 0.067 | 0.032 | 2.094** | Supported |
| H11 | SS →RV→FP | 0.105 | 0.035 | 3.000** | Supported |
| H12 | TM →RV→FP | 0.008 | 0.014 | 0.571 | Not Supported |
| H13 | DS →RV→FP | 0.080 | 0.030 | 2.667** | Supported |

[80].

***p<.001; **p<.01; *p<.05

Therefore, the result of hypothesis test was showed as below:

- H1: There was a positive relationship between the product support (PS) and the relationship value that was supported.
- H2: There is a positive relationship between the service support (SS) and the relationship value (RV) that was supported.
- H3: There was a positive relationship between the delivery support (DS) and the relationship value (RV) that was supported.
- H4: There was a positive relationship between the supplier know-how (SK) and the relationship value (RV) that was supported.
- H6: There was positive relationship between the personal communication (PS) and the relationship value (RV) that was supported.
- H7: There was a positive relationship between the relationship value (RV) and the firm performance (FP) that was supported.
- H8: Relationship value (RV) mediated the Product Support (PS) to the firm Performance (FP) that was supported.
- H9: Relationship value mediated the Service Support (SS) to the firm Performance (FP) that was supported.
- H10: Relationship value mediates the delivery support (DS) to the firm Performance (FP) that was supported.
- H11: Relationship value mediates the supplier know-how (SK) to the firm Performance (FP) that was supported.
- H12: Relationship value mediates The Time to market (TM) to the firm Performance (FP) that not was supported.
- H13: Relationship value mediates the personal communication (PC) to the firm Performance (FP) that was supported.

5. Conclusion

In order to determine the antecedents and the outcome of the relationship value between the suppliers and buyers in the electrical industry in Vietnam, 410 firms are chosen to conduct the research. They are the end-users and contractors in the electrical equipment section. They select and buy the electrical products for purpose those are used for their projects and end users. After analyzing the data, the findings show that there are five factors that influence the relationship value, consisting of the product support, service support, the delivery performance, supplier know-how and the personal interaction. The change of one of the five factors affects the relationship value. These changes are depended on the impact level of impact to relationship value.

The findings presents that the product support factor has the strongest impact on the relationship value compared to other factors. The finding of relationship between product support and relationship value is high correlation (0.31). The product support is the highest impact on relationship value. This is approve that even though there are many factors influence to relationship value but product support is the most important issues that affect to make decision in buying products by buyers. This is as in reality, most of buyers buy the electrical products depending on the product support. The second factor influence to relationship value that is service support. It is important factor to impact on the relationship (0.23)

The findings also indicate that there is an interaction between the relationship value and the firm performance. In general, the study is proved that if one of the factors influences the relationship value, that lead to affect the firm performance. Besides, the findings illustrate that there are strong relationships between relationship value and firm performance. This proves that the relationship value is the most important factor as mediator to among five factors: product support, service support, delivery support, supplier knowhow and personal communication to firm performance. The relationships are confirmed by instant ratio as the finding.

Basing on the research results, the supplier "time to market" is only one factor that doesn't influence the relationship value. That is the fact as most of the electrical suppliers in the market just focus on some main factors such as the product itself, the service, the delivery, personal communication, supplier know-how not on supplier time to market. This factor is not too important for buyers. Because this factor doesn't support the buyers to bring their products to use sooner against the competitors. With the project work, the buyers consider other factors than Time to Market. They just need buyer meet the delivery time and commit to deliver goods on time.

The adjusted model has been constructed basing on the processing data and finally there are five factors: the product support, the service support, the delivery performance, time to market and the personal communication. Besides, there is also strong relationship between the relationship value and the firm performance. Basing on adjusted model, a recommendation shall be presented in the next paragraph.

Recommendation

**Supplier's performance*

The adjusted model fit shows that product support factor has a strong impact on the relationship value. This is one of the important factors that influences the relationship value and it also affects the firm performance. Therefore, the electrical suppliers need to improve the product support by providing buyers high product quality, consistency product and stable product. The suppliers should make sure that they always bring the best products to their buyers because this is a very important factor. In the reality it is correct that the buyers always think of product quality because this can help buyer to have good products to equip for their projects or factories. They always believe that they don't have any product troubles such as product breakdown. In addition, the buyers in the electrical industry have to pay much for their products. Therefore, they always request the best products from the suppliers. Therefore, the suppliers who are also manufacturer need to think about the product support factor for their management. They should improve their products by focusing on the designing to improve consistency, liability of the products. Furthermore, they should also improve the logistic system bring about the product stability to the buyers. In this way, they can maintain a good relationship value with their buyers. The point of view from the suppliers, they must know the important level of the products support. If they focus on how to improve the products to support their buyers. This leads to improve the relationship value between them and buyers. This relationship value will suppliers keep their buyer against their competitors [81] as well as repeat orders for next time. Therefore, this relationship value can help suppliers to improve their sales as well as their position in their buyer eyes [81]. This relationship value will build reputation of suppliers in the market that is strong brand name against their competitors. The brands create the meaningful links in the mindset of customers that can help buyer increase their feelings of confidence and loyalty for suppliers [82]. That can help supplier continue to keep their position in the market.

The second factor impacts on the relationship value that is service support. The vestment of specific relationship are important to build the relationship from both sides, it is easy for firms to switch trading partners with little penalty because other suppliers provide similar products [83].

Any change of characters of service support factor that leads to alter the relationship value. When the buyers want to make decision to select suppliers they often consider the provision of clear and sufficient documents. It is very important because buyers want to have full documents to prove that the suppliers provide the clear information related to products and service from suppliers. One thing is important for suppliers to build relationship value that is supplier provide immediately information when the buyers need. This shows that suppliers have high responsibilities to meet the demand and requirement from the buyers. Besides, the buyers consider the service support by provided by suppliers with the useful and valuable information. It means that the suppliers know how to provide useful and valuable information. The suppliers know how to focus on the buyer's requirements. One of the important characters of service support to build relationship value with buyers that is prompt to fix equipment failure. That why many suppliers provide the after sales service 24 hour per day. That is very important for buyers to ensure the machinery or operation of electrical system properly and they have no big issues about machine breakdown. The buyers want to make sure that they have no any issues related to the electrical products from the suppliers. The model shows that service support factors is important for suppliers to build relationship value with buyers in the market. This also impacts on the performances for suppliers. If the suppliers can do the best service support to buyers, their sales or revenue will increase as proved model. Therefore, value for a business buyer is not only based on the core product but also on the supplier and customer interactions. According to the view of service support, the role of companies has evolved from supplying customers with goods or services to facilitating and supporting buyers in their own business performances [84].

The delivery performance is also one of the factors that influences the relationship value and lead to alternate the firm performance. As a result, the electrical suppliers should always make great efforts to remain and develop the relationship with buyers,

to improve the delivery performance that should be on time with as less defects as possible. However, in fact, many suppliers don't pay much attention to the delivery performance. Therefore, if they don't change their concept, they shall lost their buyers, sooner or later. In short, the senior management of the electrical suppliers should care about this matter to improve the delivery performance as it is one of the ways help a supplier to obtain and maintain supplier, to kick out other opponents. One of characters of delivery support is suppliers must meet the requirements of delivery due dates. The supplier must ensure that delivery is on time because any delay of products will lead to affect the installation or maintenance or service that impact on the completion of projects or factory or delay on the operation of business for buyers. Any delay sure that the relationship value breakdown. For delivery factor, the supplier must ensure that not only any delay on delivery they must also have rarely problems of any problems about delivery as well as stable correct of delivery. It means that supplier must provide related documents as well as correct products to buyers. To remain the competitive, suppliers must know to build process such as logistic to ensure that buyers have no any issues to effect on business relationship between buyers and suppliers [85].

The next factor in the adjusted model is the personal interaction. It has a strong impact on the relationship value. In other words, communication is very important for the electrical suppliers as a good communication will improve the understanding between suppliers and buyers [9]. Therefore, the suppliers should know how to create a friendly environment with their buyers. Therefore, the suppliers need to train their staff; especially the sales team to know how to communicate with suppliers in an effective manner. The role of salesperson is very important to improve relationship value with buyers. They know how to communicate with buyers that the buyers feel that it is easy to work with the supplier. Besides, the salesman also know to build and keep good relationship with buyers. That is very important character for improving the understanding together. One more things that is suppliers treat buyers any problems easily. The suppliers know do not make noisy against with buyers. They ensure that their buyers feel freely as well as friendly discuss more freely with suppliers. When any problem happens to electrical products that they buy from suppliers, they have good cooperation with supplier when we need to discuss. The buyers can exchange the information in a comfortable manner with the supplier. The buyers have greater feeling of being treated as an important customer when they work with suppliers. These characters of person communication factors not only influence on their relationship value with buyers but impact their performances. If suppliers treat them respectively the supplier's revenue be increased because the buyer continue to support for coming orders.

The last factor impacts on the relationship value that is supplier know - how [9]. This shows that the supplier must know how to process any problems that can help them to build the relationship value with buyers. The suppliers know how to provide necessary information to us. One more things is that the suppliers knows how to help us choose and update products. Because buyers sometimes they don't know the technology that can help to build good electrical systems or factories. Therefore, supplier must know how to provide useful and necessary information to buyers. One thing that suppliers must know to how to support new product development for buyers. These characters of supplier know-how increase the relationship value between the buyers and the suppliers. These also influence on performance for suppliers [9].

In general, for the managerial applications to the suppliers, the top management positions of buyers should focus all the factors that influence their relationship value with buyers. They should have specific strategies for each department in charge. In details, the product support relates to production department. Therefore, under guidance of management, the product department should follow any process, international standard, policy to make sure that any person in charge of production process must follow strictly to produce high quality products to compete against competitors. Nowadays, the market is very complex, there are many competitors from around the world. The buyers are very easy to use internet to check the similar products of suppliers to make comparison between main suppliers with others. If main electrical equipment suppliers do not make sure that you can compete against with their competitors. If they cannot maintain the quality of products as well as to keep the commitment of products to buyers then the buyer will alter the suppliers.

The second factors that electrical equipment suppliers should care is service support. The result of research shows that any change of service factors will influence to relationship value that lead to impact the buyers' performance. The service support is belongs to service support department. To make sure that, the main suppliers must support strongly for the buyers. If the electrical equipment suppliers do not comply and service commitment or do not serve well as buyer's request. The electrical equipment buyers will switch main suppliers by others in the market.

The delivery performance has a connection with the logistic department. Supplier know-how factor relates to the buyer care and the personal interaction is related to the sales department. Basing on these relations, the top management positions should know how to set up the strategies in a proper manner. They can apply this model to construct sales and marketing plans for the creation and improvement of the relationship value with their buyers. As a result, they become the key suppliers and they can compete with their competitors and finally becoming the best suppliers in the market.

One of the factors that impacts on the relationship value between buyers and suppliers is personal communication. This factor is very important for salesperson. Besides, the electrical suppliers can high quality products and good services, the main suppliers should train their salesperson or any person related to buyers. They must know how to communicate with buyers, how they can handle problems. In business to business, business deal is requested high skill communication. The salesperson should know to talk with high management level such as managers, directors from the buyers. In some case, the electrical salesperson handle the serious meeting with some senior positions of buyer's side. Therefore, they must know how to explain technical products to buyers. They also know how to answer any questions such as delivery time, discount, warranty policy, payment terms. Therefore, sales team should train well about products, services, policy of warranty and payment term.

Another factor that influence to relationship value that is supplier know-how. Electrical suppliers must know to how provide any information of products, service support, delivery support to buyers accurately to avoid any misunderstanding as well as make angry from the buyers.

*The buyer's performance

An adjusted model also shows the relationship between the relationship value and the firm performance, the relationship value between the electrical equipment suppliers and the buyers. The change of any five factors shall influence a buyer's firm performance. The point of view of the buyers is that they always looks for a product and services to meet all of their demands such as the reliability, lost operation cost to maintain the smooth production services. Therefore, the buyers also focus on improving the relationship value with the suppliers. They should cooperate with the suppliers to well maintain four mentioned factors. Furthermore, they can base on these factors to build the strategies to evaluate their suppliers on the basis of the relationship value with the suppliers. The electrical equipment suppliers can use five finding factors those impact on relationship value to rank the contribution levels of the electrical equipment suppliers to success of the electrical equipment buyers. The electrical buyers can classify the importance of suppliers in the market. They can use these factors as foundation to help them to evaluate the reliabilities of supplier. They can know the commitments and the trust from the suppliers in complex market because of massive information from many resources such as internet, newspaper. Besides, findings also help the electrical buyers build supplier databases of suppliers and help them to know who are main the suppliers.

In short, the buyers and suppliers can apply these results to set up the strategies for their business, to train their staff how to improve their skills in executing the four factors in an effective manner. The results of this research can also be applied for the companies who run business in similar industrial products.

Limitation

Geographically, the data of this research has been collected in Vietnam. The results of the research might be different if the data is e collected in other places among provinces and cities such Hochiminh, Hanoi capital and Danang City. The company can buy electrical products for many purposes. The importance of products that the number of people involved to make decision to choose the products. They can be impacted on the behavior of selecting the products.

The respondents were chosen to interview in this research who are heads of department the collected days from difference management level from manager to C level management and difference departments such as engineering department, accounting department, operation and marketing and purchasing department that can lead to difference the results of research. One of importance factors that can affect the behavior of respondent that is bias. Therefore, the results of research can influence the results of research. Even though, interviewers are trained about how to have high reliabilities of questionnaire. But, the quality of feedback questionnaires is influence by behaviors, knowledge and skill of interviewers.

Future research

In the future, this research expands for who want to do research. Researchers can expand this model to find out more factors to impact on relationship value such as the price and original products. Besides, the timing cycles and product cycles may influence the relationship value.

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