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Abstract: This study identifies the factors that influence supply chain integration between manufacturer and suppliers and develop the measurement instruments for them. The factors influencing supplier integration include mediated power, non-mediated power, normative relationship commitment, and instrumental relationship commitment among the trading partners. This study empirically investigates the relationships between the factors that influence supplier integration, the degree to which the suppliers are integrated, and supplier and manufacturer's performance within the supply chain using data collected from manufacturing companies within the supply chains from Mainland China and Hong Kong. This study also empirically tests the reliability and validity of the instruments. The results show that two types of power impact relationship commitment significantly. Relationship commitment has a positive influence on supplier integration and supplier's performance. Supplier integration leads to manufacturer's financial performance. This study provides important insights for future researchers to understand power, relationship commitment and supplier integration from various perspectives. Findings from the study can help companies enhance their global competitiveness by developing and managing relationships with their trading partners that will enable them to have effective integration of key processes within the supply chain.

Keywords: SCM; Power; Relationship Commitment Supplier Integration; Performance; China.

I.   Introduction

Though the fundamental concept and importance of supply chain management are widely accepted by both the scholars and the practitioners, some important areas about supply chain integration are still not described theoretically and processed practically well. For instances, there is no commonly accepted scales on the term "supply chain integration" and there is no concrete descriptions on the factors affecting the supply chain integration. In addition, there is not much research findings on how the initiators affect the supply chain integration, and in what extent the supply chain integration could affect the performance of the

manufactures.

Many papers identified different types of integration of supply chain [33;46;57;62;78;78], Some papers analyzed the relationship between supply chain integration and supply chain performance [62], However, only a few papers explained the initiators of the supply chain integration and the functions of them, and these papers only sited several initiators of the supply chain integration without detailed explanation about the relationships among the initiators, supply chain integration and performance.

Researchers in marketing and management have investigated power and relationship commitment issues within and between organizations over the last decade. Brown, Lusch, & Nicholson [12] empirically tested the impact of power and relationship commitment on marketing channel member performance from the relationship marketing perspective. Maloni & Benton [53] found that power plays a significant role in the supply chain management, and the different sources of power have different impacts on inter-firm relationship in the supply chain. A stronger buyer and supplier relationship can enhance the performance of the companies in a supply chain. Cox [23] illustrated that power is at the heart of the trans-organizational relationships and captive suppliers are conditioned by powerful buyers to make substantial investment (commitment) to sustain the business relationships. Benton & Maloni [6] investigated the supplier satisfaction in power driven buyer–supplier relationships. However, there are few studies investigated the influence of power or relationship commitment in SCI area. Beth et al [7] advocated that relationship commitment are placed in the highest priorities in achieving "supply chain integration", a significant concept that promotes collaboration between supply chain partners for values and competitiveness.

We aim to find the factors that play an important role integration of the enterprises, Such as power, and relationship commitment. This study identifies the key factors that influence supplier integration, develops and tests a conceptual framework that can explain the relationships among the key driver variables and process integration, and the performance of the firms within the supply chain. So, the objective of our study is to build a model to identify the relationships among power, relationship commitment, supplier integration, and company performance. It also presents an overview of the manufactures in Mainland China and Hong Kong. Specifically, the objectives of this study

are: 1). to offer a comprehensive review of power, relationship commitment, supply chain integration with supplier, and company performance. 2). to identify the key factors that influence supply chain supplier integration. These factors include power, and relationship commitments, etc. 3). to develop a measurement instrument for the above factors, supplier integration, and the performance of the firms within the supply chain. 4). to propose and test a model that represents the relationships among the factors that influence supplier integration, the degree of supplier integration, and firm performance. 5). to provide guidelines for companies to enhance their performance through better relationship management and process integration.

The paper is organized as follows: firstly, we review some related literatures related to power, relationship commitment, supplier integration, and performance; this is followed by the development of a conceptual model with hypotheses and the explanation of research methodology. The hypotheses are tested, followed by the discussion of the findings. Finally, the conclusions and the limitations of the study are presented, together with suggestions for future research.

II.   Literature Review

II. 1   Supply Chain Integration

Extensive literature has attached great importance to supply chain integration for achieving comparative advantages [9;22;32;52;56;59;72], as well as operational performance [1;3;33;46;61;78]. Various literatures [9;41] suggested that supply chain integration are to integrate the relationships, activities, functions, processes and locations among all channel members in the supply chain. Stevens [80] proposed that integrating the supply chain is primarily involved in planning, coordinating and controlling materials, parts and finished goods from suppliers to customers at all different strategic, tactical and operational levels.   In addition, Naylor et al [64] demonstrated that the goal of integration is to eliminate all the boundaries to smooth the flow of material, cash, resource and information.   Based on this line of thought, supply chain integration should be strategically managed as a single system as opposed to individually optimizing fragmented subsystems [85].   But, one of the limitations of the earlier explanations is that they may not be systematic enough to differentiate integration from supply chain management.

Supply chain integration could be illustrated as the degree to which the firm can strategically collaborate with their supply chain partners and collaboratively manage the intra- and inter-organization processes to achieve the effective and efficient flows of product and services, information, money and decisions with the objective of providing the maximum value to the customer at low cost and high speed [8; 33; 80; 82; 83]. The objective of supply chain integration is to provide the maximum value to the customer at low cost and high speed.   Customer orientation is exceptionally important in current business world.

Without the customer-oriented initiatives, we couldn't expect a successful implementation of supply chain integration.

Supply chain integration could be further identified into six types: strategic integration, relationship integration, internal integration, external integration, information integration and measurement integration.   Strategic integration refers to the degree to which a firm can structure the strategic goals and objectives, as well as the sharing of resources, rewards and risks across organizations into consensus and contractual agreements in order to achieve competitiveness [14; 34; 46].   Relationship integration refers to the degree to which a firm can structure the formation, commitment, maintenance and exit of relationships across organizations into consensus and contractual agreements in order to achieve competitiveness [8; 78].   Internal integration refers to the degree to which a firm can structure its organizational practices, procedures and behaviors into collaborative, synchronized and manageable processes in order to fulfill the customer requirement [16; 18; 48; 50].   External integration refers to the degree to which a firm can partner with its key supply chain members (customers and suppliers) to structure their inter-organizational practices, procedures and behaviors into collaborative, synchronized and manageable processes in order to fulfill the customer requirement [79].   Information integration refers the degree to which a firm can coordinate the activities of information sharing and combine core elements from heterogeneous data management systems, content management systems, data warehouses, and other enterprise applications into a common platform in order to substantiate the integrative supply chain strategies [45; 74]. Measurement integration refers to the degree to which a firm can structure the measurement systems and manage the measurement activities with its key supply chain members in order to substantiate the integrative supply chain strategies [8].

Frohlich et al [33] investigated supplier and customer integration strategies in a global sample of 322 manufacturers. Scales were developed for measuring supply chain integration, and five different strategies (inward-, periphery-, supplier-, customer-, and outward-facing) were identified in the sample. Morash et al [57] investigated and compares 3 major forms of supply chain integration for approximately 2 thousand global firms. The 3 forms of supply chain integration include intra-organizational process integration, inter-organizational collaborative integration including strategic alliances, and operational excellence. This paper identified two types supply chain integration: external (customer and supplier) and internal (process reengineering) integration.

The measurement and empirical studies of supply chain integration can be further divided into two prevalent perspectives. These are 1) as a series of interactions between the competitive environment and the organization and 2) as collaborative behaviors that happened within and across supply chain organizations. In line with the first perspective,

Johnson [46] developed an instrument using data from industrial equipment distributors and empirically validated strategic integration as a center of gravity for building up sustainable integration. The findings revealed that dependence, flexibility, continuity expectations, and relationship age have positiveeffects on a distributor's strategic integration with its suppliers. Moreover, strategic integration enhanced the distributor's financial performance. However, contrary to common belief, the result suggested that uncertainty did not have a significant effect on the distributors' strategic integration with their suppliers or on performance. Following a second line of thought, Stank et al [79] emphasized internal and external collaboration. On the basis of their findings, it has been suggested that collaboration with external supply chain entities increased internal collaboration, which in turn improved service performance. Although both dimensions can provide insights for managers and researchers in establishing supply chain integration, it is reasonably believed that a composite of the two may better describe supply chain integration in a highly dynamic environment.

II. 2 Power

Category management has been promoted as a mechanism to achieve closer working relations between suppliers and retailers. The premise has been that category management should result in a reduced reliance on the use of power as an element of the relationship and increased levels of cooperation. However, Dapiran & Hogarth-Scott [24] suggested that power is an element of any relationship and exists even when not activated and the premise rests on the notion that cooperation is a polar opposite of power. This research confirms that UK and Australian food industry managers perceive the use of power in solely negative terms. Power can be defined operationally as the ability of one channel member to influence the marketing decisions of another channel member and hence must be related to cooperation. This paper reviews the nature of dependence, power and cooperation and explores the role of these constructs in the practice of category management. And a model was suggested that shows the linkages between power, cooperation, capitulation, and trust. The use of mediated power bases of reward and coercion was likely to lead in the immediate term to capitulation. The non-mediated bases of power - expert/ information, referent, legitimate - were likely to lead to the state of existence called cooperation.

Cox [23] illustrated that power is at the heart of the trans-organizational relationships and captive suppliers are conditioned by powerful buyers to make substantial investment (commitment) to sustain the business relationships. The study explained why competence in procurement and supply management must start from an understanding of the bases of supplier power and business strategy and how the power perspective can enhance effective procurement and supply management. The basic power matrix that is essential in understanding the exchange relationship between buyers and suppliers is outlined, so that buyers can understand the circumstance they are in and what scope exists for them to augment their power relative to suppliers. The study also investigated that procurement and supply competence must involve the buyer seeking ways to eradicate augment the power of the supplier over the buyer, as well as seeking at all times to ensure that its suppliers operate only in highly contested markets and earn only normal returns. It was important to understand that the power attributes that may be available to buyers and suppliers can be double-edged. This was because a power attribute may favor the buyer and sometimes it may favor the supplier. The paper also explained how regulation can be an attribute that augments the power of both the buyer and the supplier.

Benton et al [6] investigated the supplier satisfaction in power driven buyer–supplier relationships. They examined the influences of supply chain power on supplier satisfaction and the impact of buyer–seller relationship on supplier satisfaction. Three primary objectives were achieved in this study: 1) how the different "bases of power" affect the satisfaction of selling firms? 2) how power driven relationships affect supplier satisfaction, and 3) how to measure the effect of power influences on supplier satisfaction in the automobile industry. The power-affected buyer–supplier relationship was found to have a significant positive effect on both performance and satisfaction. But they failed to find the casual relationship between performance and satisfaction.

Maloni et al [53] examined the detrimental and beneficial effects of power on the ability to build integrated, high-performance buyer-supplier relationships in the supply chain. The study found that power plays a significant role in the supply chain management, and the different sources of power have different impacts on inter-firm relationship in the supply chain. A stronger buyer and supplier relationship can enhance the performance of the companies in a supply chain. Study also validates that supply chain integration is a key element of cooperate strategy and it is very important to understand the process of supply chain integration.

Brown et al [12] empirically investigated the impact of power and relationship commitment on marketing channel member performance from the relationship marketing perspective. They found that in marketing channels for farm equipment, the supplier's use of power may bring two 2 key outcomes: 1). the retailer's commitment to the channel relationship and 2). both supplier and retailer performance within the channel. They also investigated how retailer commitment affects channel members' performance in terms of both supplier's performance and retailer performance. They argued that key linkages are moderated by the symmetry of power within the channel (i.e., whether the retailer is more powerful, power is somewhat balanced between the two channel members, or the supplier is more powerful). Their results partially supported both the primary construct linkages as well as the moderating effect of power symmetry upon them. The study demonstrated that power and its usage can have a pivotal impact on the working

relationships in marketing channels and under certain conditions, the use of power in the channel can enhance performance for all channel members.

Goodman & Dion [37] argued that since Industrial distributors were carrying an increasing percentage of industrial goods in the ways of mergers and acquisitions, they became larger and more powerful. This constrained the ability to product line manufacturers to exercise power over their distributors. But the manufacturers still require commitment from their distributors in order to carry out a coordinated marketing program. Power was becoming one of the important determinants of relationship commitment in the distributor-manufacturer relationship. A model of distributor commitment was developed in this study based on the high-tech distributors surveyed.

Chris [21] stated that the balance of power in an exchange relationship can shift over time to favor the supplier. This paper investigated the importance of asset specificity for buyer-supplier exchange relationships in outsourcing decisions. Emphasis was placed on the need for buyers to understand pre- and post-contractual risks and how asset specificity can lead to post-contractual lock-in or dependency was discussed. The concepts of asset specificity, uncertainty, and information asymmetry were outlined as they relate to the scope for improvement in supplier power.

Watson [86] presented that supply chains are complex power structures in which participants have very definite interests that go beyond cost control through waste management. These interests extend into areas such as that wins from the process of coordination and whether the benefits of coordination fully cover the managerial costs incurred. Customers and suppliers enjoy the power to veto an organization's integrated supply chain management initiative and, as a result, the chances of achieving supply chain integration are reduced. But even in the relationship between the insurers and their preferred car repairers, these preferred suppliers have little scope to leverage value from the branded parts suppliers that dominate the relationship between quality and cost in this sub-regime of the overall power regime.

II. 3 Relationship Commitment

Morgan & Hunt [58] suggested that the propensity for relational continuity and the establishment of long-term relationship are primarily in the theme of "relationship commitment". Relationship commitment can be defined as the willingness of a party to invest resources into a relationship [27; 58]. Gundlach et al [39] further pinpointed its importance for developing and sustaining successful relational exchange.

Relationship commitment can be identified into two levels: interpersonal commitment and organizational commitment. Interpersonal commitment refers to the individual's willingness to contribute considerable time, work and energy for another individual [43]. Organizational commitment could be further categorized into two: Intra-organizational and inter-organizational commitment. Intra-organizational commitment refers to employee's identification with and acceptance of their organizational goals and values, as well as his willingness to make considerable effort to his organization for a desirable outcome [60; 69]. Inter-organizational commitment is defined as the willingness of a focal organization to invest in the relationship with its partners based on the favorable outcomes [19]. With increased inter-organizational commitment, supply chain organizations would develop closer relationships with their supply chain partners; therefore, it enhances the implementation of supply chain integration. Two types of relationship commitments were identified by Mathieu & Zajac, and Penley & Gould [55; 68]: affective commitment and calculative commitment. Affective commitment can be defined as one party's identification with and emotional attachment to the goals and values of another party, and willingness to secure the relationship [58; 87]. Calculative commitment can be viewed as one party's identification with the benefits and costs of the relational exchange, and willingness of maintaining the relationship for satisfying his needs [36].

Because supply chain integration is created by cooperative, mutually beneficial partnerships with supply chain members [88], there has been an increasing research emphasis on power and relationship commitment in recent years.

II. 4 Performance

As cited by Chen et al [18], a common measure of business performance is financial performance because the primary goal of business organization is to make profits for the shareholders. Financial performance has been widely used as a key measure of firm performance [10; 11] and is evaluated in different dimensions. However, much literature [28; 29; 77] has pinpointed the limitations in relying solely on financial performance measures in supply chains. van Hoek [84] further advocated the supply chain firms to devise innovative measurement system as opposed to the traditional ROI-based system. A broader conceptualization of performance measures includes customer service and other operational indicators. Neely et al [65] presented a few of the categories of performance: comprising quality, time, flexibility, and cost. Vickery et al. [85] included the dimensions of service performance in their customer service construct that are general, and these customer service items include pre-sale customer service, product support, responsiveness to customers, delivery dependability, and delivery speed. Benita [4] presented an overview and evaluation of the performance measures used in supply chain models and also presents a framework for the selection of performance measurement systems for manufacturing supply chains. Three types of performance measures are identified as necessary components in any supply chain performance measurement system, and new flexibility measures for supply chains are developed.

Various literatures [38; 38; 49; 54] suggested that a

balanced approach for the performance measurements is essential to present a clear picture of organizational performance. Actually, some recent supply chain integration studies [81; 85] have used both operational and financial performances as indicators for the organizational performance. However, many supply chain integration studies have measured either operational [75; 78; 79] or perceived financial performance outcomes [73].

In summary, previous research has shown that supply chain integration with suppliers is very important for achieving superior supply chain performance. Additionally, power and relationship commitment have become a promising area of research in supply chain integration literature. However, much of the previous work regarding supply chain integration is U.S.-oriented and has not identified a comprehensive model for business process integration. There is a need for further research to investigate the relationships between the various factors that influence business process integration, the degree to which processes are integrated, and the performance of the firms within the supply chain.

III.   The Proposed Model and Rese-Arch Hypotheses

Based on an the literature reviewed and the in depth interviews with more than 15 practitioners who are in charge of supply chain management in Hong Kong and Mainland China, we propose the following theoretical framework for supply chain supplier integration.
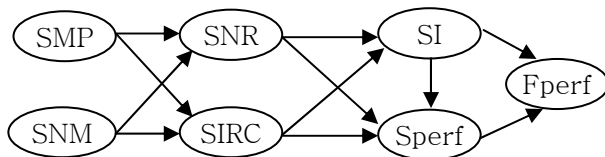
Within this framework, we have included the following seven theoretical constructs: (1) Perceived Supplier Mediated Power (Smp), Mediated power, which includes reward, coercive, and legal legitimate, involve influence strategies that the source (buyer) specifically administers to the target (seller). The intention is to bring about some direct action. Mediated bases represent the competitive and negative uses of power traditionally associated with organizational theory [12; 53]. (2) Perceived Supplier Non-mediated Power (Snmp), Compared with mediated powers, Non-mediated power which includes expert, referent, and traditional legitimate are more relational and positive in power orientation [53]. (3) Normative Relationship Commitment to Supplier (Snrc), Normative relationship commitment refers to one member's identification with another member and its internalization of common norms and values with another member [12]   (4) Instrumental Relationship Commitment to Supplier (Sirc), Instrumental relationship commitment is based on compliance (driven by rewards or punishment, etc.) and distinct from normative

commitment [12] . (5) Supplier integration (Si), Supplier integration is defined as the core competence derived from better coordination of all the critical suppliers in a company's supply chain to jointly achieve improved service capabilities at lower total supply chain cost [8]. (6) Supplier's performance (Sperf), Supplier's performance is defined as the company's supplier operational outcome, such the level of quality, flexibility, delivery, and customer service. It should be noted that supplier's performance is concerning the company's performance with respect to its major supplier. It is not the performance of the supplier companies. (7) Financial performance (Fperf). Financial performance is defined as financial and market measures to evaluate the firm's efficiency and effectiveness. We used financial performance to measure the performance of the manufacturer in the supply chain is for that financial performance is a common measure of business performance [18]. On the other hand, we can find that supplier's performance is based on the operation aspects of the companies. Using financial performance as a common measure of the performance of the manufacturer in the supply chain, we can investigate the impacts of supplier's performance on financial performance. These constructs and their relationships were identified based on the results of an extensive review of the related literature and our observations during plant visits and in-depth interviews with executives who are knowledgeable in supply chain management. To identify reliable and valid measurement items for each of the constructs, we have conducted an extensive literature review. Whenever possible, we have adopted from valid measurement items used in previous studies. We have also added some new measurement items and modified some of the measurement items based on the results of our in-depth interviews and observations during the plant visits. The preliminary measurement items for the key constructs and the sources from which these items were adopted are shown in Appendix.

Brown et al.[12] found that in marketing channels for farm equipment, the supplier's use of different power may bring different retailer's commitment to the channel relationship and relationship commitment brings both supplier and retailer performance within the channel. Goodman et al [37] argued power was becoming one of the important determinants of relationship commitment in the distributor-manufacturer relationship. So, we proposed those hypotheses:

H1: Companies with a greater level of perceived supplier mediated power are more likely to have a stronger normative relationship commitment to suppliers.

H2: Companies with a greater level of perceived supplier mediated power are more likely to have a stronger instrumental relationship commitment to suppliers.

H3: Companies with a greater level of perceived supplier non-mediated power are more likely to have to a stronger normative relationship commitment to suppliers.

H4: Companies with a greater level of perceived supplier non-mediated power are more likely to have a stronger

instrumental relationship commitment to suppliers.

With relationship commitment, supply chain partners become integrated into their key suppliers' business processes and more tied to established goals [18; 58]. Working in this same vein, Prahinski & Benton [70] developed and empirically tested a model that explained how suppliers perceive the buying firm's supplier evaluation communication process and its impact on suppliers' performance. Johnson [46] investigated the strategic role of inter-firm relationships through the concept of strategic integration. Narasimhan & Kim [63] investigated a set of strategies for information systems utilization in supply chain integration initiatives. It is argued that there might be a recommended sequence in using information systems for supply chain integration. Stank et al [79] developed and tested the measures to examine empirically the relationships between internal and external supply chain collaboration and logistical performance. Daugherty et al [26] empirically examined involvement in reverse logistics activities. The research specifically addressed the relationship between information systems support and reverse logistics program performance. The research examined the role of relationship commitment. Relationship commitment implies closer relationships. Such closer buyer-seller relationships are frequently associated with more positive relationships between information systems support and reverse logistics program performance. Brown et al [12] found that relationship commitment brings both supplier and retailer performance within the channel. So we proposed that

H5: Companies with a stronger normative relationship commitment to suppliers are more likely to have to a greater extent of supplier integration.

H6: Companies with a stronger instrumental relationship commitment to suppliers are more likely to have a greater extent of supplier integration.

H7: Companies with a stronger normative relationship commitment to suppliers are more likely to have a greater extent of supplier's performance.

H8: Companies with a stronger instrumental relationship commitment to suppliers are more likely to have a greater extent of supplier's performance.

The relationship between supply chain integration and performance outcomes is discussed over a vast body of supply chain and operations literature [3] [25; 81]. For example, Stank et al [78] developed and tested an instrument for measuring supply chain integration competences as well as determining their relative importance to developing logistics distinctiveness. Stank et al. [79] suggested that collaboration with supply chain partners facilitates internal collaboration, which in turn enhances logistics performance. Frohlich et al [33] examined the simultaneous effects of five different supplier and customer integration strategies on a broad array of operations performance outcomes based on a global sample of 322 manufacturers. The findings demonstrated that supply chain companies with the widest degree of the arcs of integration achieve the highest level of performance improvement involving the customer service,

on-time delivery, delivery lead time, productivity, quality, and cost, in addition to the market share and profitability. Armistead et al [3] identified the extent to which greater integration along the supply chain leads to improved operating performance. A survey was conducted of managers from companies that participated in the UK Best Factory Audit conducted by Management Today and Cranfield School of Management. So we proposed those hypotheses

H9: Companies with a greater extent of supplier integration are more likely to have a greater extent of supplier's performance.

H10: Companies with a greater extent of supplier integration more likely to have a greater extent of financial performance.

H11: Companies with a greater extent of supplier's performance more likely to have a greater extent of financial performance.

IV. Research Methodology

IV. 1 Sampling and Data Collection

To test the above hypotheses, we collected data from manufacturing companies in Hong Kong and Mainland China. Since China is becoming the global factory of the world, manufacturing companies in China play a very important role in many supply chains. To our knowledge, there are no solid empirical studies of supply chain management issues using data from China. Therefore the data collected and the results found from China can be of great value. We use a mail survey combined with telephone calls to maximize the return rate.

As an exploratory study, the method of simple random sampling is used to collect the data. Since China is a big country, we will strategically choose four cities representing the whole economy of China: Chongqing, Tianjin, Guangzhou, Shanghai, and Hong Kong as our target samples. Chongqing is a traditional industrial base in the northwestern part of China. It is in at a relatively lower stage of economic reform and market formationization. Tianjin is an industrial base in central China and reflects the "average" stage of economic reform and market formation in of China. Guangzhou and Shanghai are in Southern China and have enjoyed a higher degree of economic reform and marketization. We believe these four cities are representative of the general business conditions in China. Therefore, Tianjin, Guanzhou, Chongqing, Shanghai are the representatives of Chinese economic development with comparably market economy, and therefore were selected as sample cities for our study. Hong Kong is a city with a different manufacturing environment from the other cities of China. We choose both Hong Kong and China because we believed that there would be a significant difference on the power and relationship commitment patterns between these two places, since Hong Kong has already been a well developed business structure, which can facilitate sharing a lot better.

Based on previous studies on from relevant supply chain

management literature, the theoretical framework has been proposed and the questionnaire has been designed. The questionnaire included questions on the demographic profile of the company and the questions relating to the company performance, supplier integration, supplier relationship, and supplier use of power. In all these questions, a Likert scale of 1 to 7 was used. In order to ensure the reliability of the questionnaire, the English version of the questionnaire was first developed and then was translated into Chinese by an operations management professor in China. The Chinese version was then translated back into English by another operations management professor in Hong Kong. This translated English version was then checked against the original English version for question accuracy. In Mainland China, we used the Chinese version of the questionnaire. In Hong Kong, we will use the bilingual version of the questionnaire.

Before we launch the full-scale study, we piloted test the questionnaire using a sample of 15 companies. We revised the questionnaire based on the results of the pilot-test and also decide whether to use a single or multiple informants per company.

Moreover, to get a representative sample of manufacturing companies in these four Mainland China cities, we used the yellow pages of China Telecom in each one of the four cities in Mainland China and Directory of the Chinese Manufacturers Association in Hong Kong as a large sampling pool. We randomly selected some of these companies on the lists to contact with telephone calls. These companies come from a wide variety of industries, such as Food, Beverage, Alcohol & Cigarettes, Chemicals & Petrochemicals, Wood & Furniture, Pharmaceutical & Medicals, Building Materials, Rubber & Plastics, Metal, Mechanical & Engineering, Electronics & Electrical, Textiles & Apparel, Toys, Jewelry, Arts and Crafts, and Publishing and Printing.

One importance important challenge for this research is how to collect reliable data concerning the relationship management and process integration with the supplier and suppliers within the supply chain. After visiting over ten companies, we believe that the best way is to get one key informant who is knowledgeable of about supply chain management within the manufacturing companies. This person is normally knowledgeable about the internal processes, processes for purchasing and distributions, and for supplier relationship management, such as supply chain managers, CEO/presidents, senior/executive, vice presidents, senior/executive directors, directors/managers in the companies. Many studies have used a single informant in studying relationship and trust issues between different organizations [42]. However, some researchers have demonstrated the benefits of using multiple informants [13]. We made telephone calls to these companies to identify the manufacturers, make sure that their addresses were correct and also identified the name and contact information for the most suitable informants who were in charge of supply chain management, purchasing and marketing/sales the operations

function. Then we sent the questionnaire to these key informants. A cover letter highlighted the objectives of the survey and its potential contributions to the respondents. Respondents were encouraged to participate in the survey with an entitlement to a summary report of the results and a small participation incentive. Self-addressed and stamped envelopes were also included together with the survey to facilitate the returning of the completed questionnaires. Follow-up telephone calls were made to improve the response rate. Follow-up mailings were also done if companies request to do them after we contact them by the phone. Respondents were contacted to clarify missing data in their responses.

617 usable questionnaires were received from the contacted 4569 companies, so the rate was 13.5%. A total of 1356 questionnaires were sent out and 617 returned questionnaires were usable. Some of the questionnaires were not used because they were not properly filled out or had too many missing values. The usable response rate was 19.7 %.

IV. 2 Company Profile

The respondents represent a large variety of the companies from a variety of industries. More than 25.49% of the companies are from metal, mechanical and engineering, 17.86% of the companies produce textiles or/and apparel, 13.15% of the respondents are electronics and electrical companies. In details, 35.61% of the companies from Hong Kong belong to textiles and apparel, but only 9.27% of Hong Kong respondents are from metal, mechanical and engineering. 35.58% of the companies in Chongqing are from metal, mechanical and engineering industry, but only 3.85% of Chongqing respondents are from textiles and apparel. 42.00% of the respondents in Shanghai are from metal, mechanical and engineering industry. We can see that the backgrounds of the industry emphasis are different among the five cities. Over 32% of the responde nts have the annual sales of less than HK$5 million, and 14.99% of the respondents have the annual sales of more than HK$100 million. But in Hong Kong, only 9.09% of the respondents have the annual sales of less than HK$5 million, and 30.68% of the respondents have the annual sales of more than HK$100 million. 56.31% o f the respondents in Tianjin have the annual sales of less than HK$5 million, and 4.85% of the respondents from Tianjin have the annual sales of more than HK$100 million. 49.04% of the respondents in Guangzhou have the annual sales of less than HK$5 million. Many of the companies in Hong Kong have a bigger sales scale than those from Mainland China.

IV. 3 The Structural Equation Modeling Method

In the study, we use structural equation modeling to estimate the causal relationships among the different constructs with linear structural relations (LISREL) program and a sample of 617 companies. Kline & Klammer [51] contended that LISREL examines the relationships of the variables as a unit, rather than piecemeal as in a regression approach. The

assumption of perfectly reliable measures in regression is untenable and easily handled by LISREL.

Structural equation modeling is a confirmatory approach to data analysis requiring the a priori assignment of inter-variable relationships. It tests a hypothesized model statistically to determine the extent the proposed model is consistent with the sample data. The measurement models specify how the latent variables are measured in terms of the indicator variables as well as address the reliability and validity of the indicator variables in measuring the latent variables or hypothetical constructs. The structural equation model provides an assessment of predictive validity, specifies the direct and indirect relations among the latent variables, and describes the amount of explained and unexplained variance in the model [15; 76].

LISREL 8.54 was used to analyze the hypothesized model. A two-step model building approach was used, wherein the measurement models were tested prior to testing the structural model. The rationale behind this two-step approach is discussed in Joreskog & Sorbom, and Anderson & Gerbing [2; 47]. The maximum likelihood estimation method was used which has desirable asymptotic properties (e.g., minimum variance and unbiasedness) and is scale-free. This estimation method assumes multivariate normality of the observed variables. Recent research has shown that the maximum likelihood method can be used for data with minor deviations from normality [71]. As a check of normality, the P-P plots for a number of variables were checked in the sample, and the data appeared approximately normally distributed.

IV. 4 Measurement Items

Perceived supplier non-mediated power and normative relationship commitment to supplier are measured by five items respectively. Perceived supplier mediated power is measured by six items and instrumental relationship commitment to supplier is measured by three items. All the items are adapted from the scale developed by Brown et al [12]. These indicators are measured using a 7-point Likert scale, with "1" for "strongly disagree", "7" for "strongly agree".

Supplier integration, supplier integration, and internal integration are measured by eight items respectively. Our supplier integration scale and supplier integration scale were largely derived from seven items of Narasimhan et al [62] which emphasized information sharing and collaboration and was further substantiated from Morash and Clinton (1998). We adapted some of these items and devised new ones to depict this construct in a most appropriate way. Eight items of internal integration which are focus on data integration, information integration as well as process integration were modified from the scales developed by Narasimhan et al [62]. All indicators are measured using a 7-point Likert scale, with "1" for "strongly disagree", "7" for "strongly agree".

Supplier's performance is measured by five items, which were partly derived from the measurements used by previous studies. These indicators are measured in the 7-point Likert scale, with "1" for "much worse", "7" for "much better".

Financial performance is measured by five items, which were partly derived from the measurement items of "firm performance" in Narasimhan et al [62]. These indicators are measured in the 7-point Likert scale, with "1" for "much worse", "7" for "much better".

IV. 5 Construct Validity and Reliability Analysis

Since the data for this research was generated using scaled responses, it is necessary to test for reliability. Reliability is an assessment of the degree of consistency between multiple measurements of a variable [40]. The most commonly used measure of reliability is internal consistency. Flynn et al [30] suggested that the most accepted measure of a measure's internal consistency is Cronbach's Alpha. Cronbach's Alpha coefficient is used [66] to measure the internal consistency of the items included in each of the constructs. The generally agreed lower limit for Cronbach's Alpha is 0.50 to 0.60 in exploratory research [30; 66]. We followed the two-step method used in Narasimhan et al. [61] to test the construct reliability. First, we did an exploratory factor analysis to ensure the unidimensionality of the scales. Second, we used Cronbach's alpha to assess the reliability of each construct. Table 1 shows the results of principal components factor analysis with varimix rotation. Cronbach Alpha tests were performed on the constructs (Table 2). Based on the coefficient values, the items tested were deemed reliable for this type of exploratory research [66].

A structural equation model is only reliable if its parameter values can be estimated [71]. Sample size affects the ability to correctly estimate parameter values and determine model fit [76]. Anderson et al [2] suggested a minimum sample size of one hundred and fifty. So, 617 samples are sufficient for the model to be tested in this study.

TABLE 1. Results of Factor Analysis

	Si	Smp	Snrc	Fperf	Sperf	Snmp	Sirc
Eigenvalue	10.12	4.09	3.34	2.78	1.68	1.59	1.21
Variance explained	27.34%	11.05%	9.02%	7.50%	4.55%	4.30%	3.28%
SI5	**0.86**	0.18	0.11	0.06	0.06	0.02	-0.03
SI6	**0.83**	0.15	0.13	0.06	0.07	0.05	-0.02
SI4	**0.78**	0.22	0.11	-0.04	0.01	0.02	-0.04
SI3	**0.77**	0.24	0.11	0.11	0.03	0.05	-0.07
SI7	**0.75**	0.07	0.19	0.05	0.13	0.13	0.06
SI8	**0.69**	0.04	0.16	0.14	0.26	0.04	0.20
SI1	**0.66**	0.04	-0.01	0.08	0.07	0.21	0.02
SI2	**0.61**	-0.05	0.04	0.17	0.20	0.17	0.03
SMP5	0.13	**0.81**	0.02	0.07	0.02	-0.01	0.18
SMP3	0.07	**0.80**	0.11	-0.04	0.06	0.06	0.14
SMP4	0.16	**0.79**	0.15	-0.07	0.06	0.14	0.12
SMP1	0.11	**0.76**	0.17	0.01	0.01	0.12	-0.06
SMP6	0.14	**0.72**	-0.02	-0.02	-0.14	-0.01	0.16

SMP2	0.13	**0.70**	0.19	-0.01	0.11	0.17	-0.08
SNRC3	0.15	0.13	**0.83**	0.01	0.16	0.15	0.07
SNRC4	0.13	0.15	**0.81**	0.02	0.17	0.13	0.13
SNRC2	0.16	0.17	**0.77**	0.06	0.13	0.22	0.05
SNRC5	0.13	0.16	**0.73**	0.02	0.17	0.18	0.19
SNRC1	0.14	0.08	**0.73**	0.09	0.28	0.21	-0.03
FPERF2	0.07	0.03	0.02	**0.88**	0.09	0.07	0.02
FPERF4	0.10	0.00	0.05	**0.86**	0.10	0.08	0.01
FPERF5	0.11	-0.03	0.03	**0.83**	0.09	0.08	0.06
FPERF3	0.09	-0.01	0.05	**0.82**	0.08	-0.01	-0.02
FPERF1	0.07	-0.02	0.02	**0.81**	0.07	0.00	0.00
SPERF3	0.07	-0.05	0.17	0.09	**0.85**	0.14	0.00
SPERF4	0.07	0.01	0.18	0.09	**0.83**	0.16	0.02
SPERF1	0.16	0.04	0.18	0.15	**0.77**	0.09	0.13
SPERF5	0.10	0.01	0.23	0.12	**0.76**	0.23	0.07
SPERF2	0.33	0.12	0.08	0.07	**0.61**	0.13	-0.01
SNMP3	0.18	0.06	0.25	0.10	0.21	**0.80**	0.03
SNMP1	0.16	0.04	0.26	0.11	0.20	**0.70**	0.14
SNMP2	0.19	0.23	0.33	0.01	0.28	**0.61**	0.00
SNMP4	0.17	0.40	0.24	0.09	0.14	**0.51**	-0.04
SNMP5	0.13	0.29	0.17	-0.01	0.30	**0.47**	0.11
SIRC1	-0.03	0.28	0.13	0.06	0.01	-0.11	**0.78**
SIRC2	0.11	0.27	0.25	0.01	0.08	0.01	**0.75**
SIRC3	-0.02	-0.07	-0.01	0.00	0.09	0.31	**0.68**

TABLE 2. Reliability Analysis

Construct	No. Of questions	Cronbach's Alpha
Financial performance (Fperf)	5	.905
Normative Relationship Commitment to Supplier (Snrc)	5	.900
Instrumental Relationship Commitment to Supplier (Sirc)	3	.694
Perceived Supplier Non-mediated Power (Snmp)	5	.822
Perceived Supplier Mediated Power (Smp)	6	.883
Supplier integration (Si)	8	.904
Supplier's performance (Sperf)	5	.875

The data collected by surveys and other empirical designs is of little use unless its reliability and validity can be demonstrated [30]. O'Leary-Kelly et al [67] mentioned that the methodological issue of construct is generally ignored in most of previous empirical researches in operations management area. There are two dimensions of construct validity: discriminant validity and convergent validity. Discriminant validity is the degree to which measures of different latent variables are unique [67]. Convergent validity relates to the degree to which multiple methods of measuring a variable provide the same results [67]. In our study, we try to assess those two kinds of validity by CFA models in structural equation models. O'Leary-Kelly et al [67] suggested that the confirmatory

factor analysis (CFA) method of assessing convergent and discriminant validity is a more powerful tool and requires fewer assumptions than the traditional MTMM matrix method.

At the beginning, we construct the CFA model using LISREL program. In the model, each item is linked to its corresponding construct and the covariances among those constructs are freely estimated. The model fit indices are Chi-Square = 2379.21 with Degrees of Freedom = 603, RMSEA=0.069, which indicate that the model is acceptable [44]. Generally, a construct with either loadings of indicators of at least 0.5, a significant t-value (t>2.0), or both, is considered to be convergent valid [17; 31]. For our model, most of the factor loadings are greater than 0.50 and the t-values are all greater than 2.0 (Table 1). Therefore, convergent validity is achieved in our study.

In order to assess the discriminant validity, we build a constrained CFA model, in which the correaltions among constructs are fixed to 1. This model will be compared with the original unconstrained model, in which the correlations among constructs are freely estimated. A significant difference of the Chi-square statistics between the fixed and unconstrained models indicates high discriminant validity [17; 31]. In our study, the difference of χ^2 is significant at 0.05 significant level. Therefore, the discriminant validity is ensured in our study.

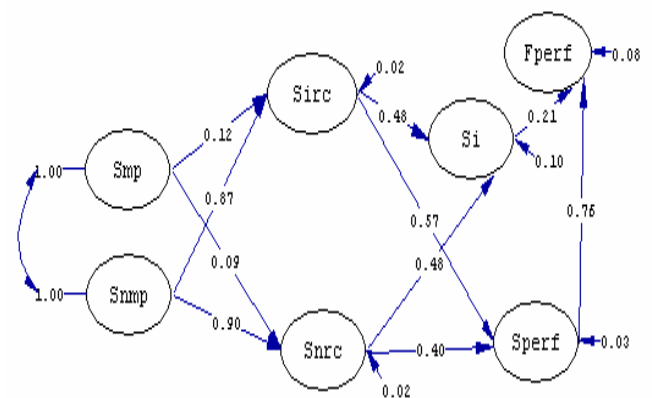## IV. 6 Structural Model and Hypotheses

FIGURE 2. Structural Equation Model

The structural model was analyzed based on the modified measurement models using the maximum likelihood estimation method. Figure 2 shows the modified structural equation model and standardized coefficients. All coefficients shown were significant at 0.05 levels except for H9. The initial model as shown in Figure 1 was tested, resulting in ten significant path coefficients (H1-H8, and H10-H11), suggesting the support in the data for the relationships. The data supported hypotheses H1- H8, H10-H11, namely, that companies with a greater level of mediated power with suppliers are more likely to have a

stronger normative relationship commitment and instrumental relationship commitment with suppliers. Companies with a greater level of non-mediated power with suppliers are more likely to have to a stronger normative and instrumental relationship commitment with suppliers. Companies with a stronger normative or instrumental relationship commitment with suppliers are more likely to have to a greater extent of supplier integration. Companies with a stronger normative or instrumental relationship commitment with suppliers are more likely to have to a greater extent of supplier's performance. Companies with a greater extent of SC performance are more likely to have a greater extent of financial performance. H9 is not supported by the data. That means that supplier integration has no significant influence on supplier's performance.

In structural equation modeling, there is no single test of significance that can absolutely identify a correct model given the sample data [76]. Much goodness of fit criteria has been established to assess an acceptable model fit. Consequently, several authors recommend presenting a number of indices to support model fit [5; 35]. This paper presents and discusses a number of fit indices with the results. The good of fitness indices for our model are $\chi^2(612) = 2631.78$, NFI = 0.99, NNFI = 0.99, CFI = 0.99, RMSEA = 0.073, Standardized RMR = 0.016. These indices are better than the threshold values suggested by Hu et al [44]. In particular, Cheung & Rensvold [20] argued that the more complex models should be evaluated using lower cutoff values and the simpler models should be evaluated using higher cutoff values. Therefore, our model can be accepted for future discussion.

V. Discussion

V.1 Supplier Integration and Performance

Supplier integration significantly impacts financial performance of the manufactures. Manufactures' supplier's performance has a positive influence on financial performance of the manufactures. Supplier integration has no significant influence on supplier's performance. That maybe for that we selected the data sample pool from the manufacturers in Mainland China and Hong Kong. For the manufacturers we surveyed, they paid more attention to the customers because that usually they have more problems for marketing. In order to sale their products; they integrated the customers with their internal operation process according to the "customer focus" operation strategy. But for suppliers, the manufacturers are their buyers or customers. The supplier usually were ignored or emphasized by the manufacturers. So the extent of supplier integration is not so high as to have a significant influence on supplier's performance of the manufacture.

The relationship between supply chain supplier integration and performance has been discussed over a vast body of supply chain and operations literature. For example,

Stank et al [78] developed and tested an instrument for measuring supply chain integration competences as well as determining their relative importance to developing logistics distinctiveness. Supplier and internal integration are considered the most important differentiators of overall firm performance. Stank et al [79] suggested that collaboration with supply chain partners facilitates internal collaboration, which in turn enhances logistics performance. Besides, Frohlich et al. [33] demonstrated that supply chain companies with the widest degree of the arcs of integration achieve the highest level of performance improvement involving the supplier service, on-time delivery, delivery lead time, productivity, quality, and cost, in addition to the market share and profitability. Most previous researchers only tested the association between integration and supply chain performance, while in practicality, business executives will primarily concern about the financial performance. The last supported hypothesis grasps the true relationships between supply chain performance and financial performance.

V. 2 Relationship Commitment and Supply Chain Supplier Integration

Both manufacturers' normative and instrumental relationship commitment to suppliers significantly impact supply chain supplier integration and supplier's performance. That means that companies with a stronger relationship commitment to suppliers are more likely to have to a greater extent of supplier integration and achieve the better supplier's performance. We can see that manufacturers' normative relationship commitment to suppliers has the same influence on supplier integration as manufacturers' instrumental relationship commitment to suppliers does (both the standardized coefficients are 0.48). And manufacturers' instrumental relationship commitment to suppliers has a higher influence on supplier's performance (standardized coefficient: 0.57) than manufacturers' normative relationship commitment to suppliers does (standardized coefficient: 0.40). From the relationship of supplier integration and supplier's performance and financial performance we discussed in last section, we know that manufacturers' instrumental relationship commitment to suppliers also has a higher influence on manufacturers financial performance than manufacturers' normative relationship commitment to suppliers does. The manufacturers should commit more instrumental relationship to the suppliers to pursuit the high performance. From the relationship between relationship commitment and supplier integration, we can find one of the important drivers for supply chain integration.

Based on the high and good relationship commitment, thesuppliers are very likely to cooperate with the partners in thesame supply chain. The results of this study are agreed witthe results of the previous studies. Prahinski et al [70] developed and empirically tested a model that explained how suppliers perceive the buying firm's supplier evaluation communication process and its impact on suppliers' performance. The results indicated that buyer-seller

relationship influences supplier commitment, which eventually yields better supplier's performance. Unless the supplier is committed to the buying firm, the supplier evaluation communication process doesn't ensure better supplier's performance. Furthermore, it has been suggested that the buying firms should increase theirefforts on cooperation and commitment in order to augmentthe supplier's commitment.

Today, the competition is not amongst the companies, but amongst the supply chains. Supply chain supplier integration is getting more and more attention from both the academician and the practitioners. Based on a high relationship commitment, the suppliers are more likely to cooperate with the manufacturers. So the manufacture will have less difficulty to integrate the suppliers with its own operation process in the supply chain to achieve the competitive advantages. Many previous papers failed to find out the impacts of relationship commitment on the supply chain supplier integration.

V.3   Power and Relationship Commitment

Power has the positive influence on relationship commitment. That means that the suppliers' use of both mediated and non-mediated power have the positive impact on both normative and instrumental manufacturers' relationship commitment to the suppliers. Supply chain organizations must evaluate their supply chain partners by different perspectives and develop an appropriate level of power in response to perceived risks in different scenarios. Based on power, commitment is formed to extend the relationships. Power as a business decision must precede the committed investment. This conclusion has also been tested by some other researchers. Brown et al [12] found that the supplier's use of different power may bring different retailer's commitment to the channel relationship. Goodman et al [37] argued power was becoming one of the important determinants of relationship commitment in the distributor-manufacturer relationship.

From the results of the model, we can also find that, the influence of suppliers' use of mediated power on manufacturers instrumental relationship commitment to suppliers (standardized coefficient: 0.12) is nearly equal to the influence of suppliers' use of mediated power on manufacturers' normative relationship commitment to suppliers (standardized coefficient: 0.09). The influence of suppliers' use of non-mediated power on manufacturers' instrumental relationship commitment to suppliers (standardized coefficient: 0.87) is nearly equal to the influence of suppliers' use of non-mediated power on manufacturers' normative relationship commitment to suppliers (standardized coefficient: 0.90). The suppliers' use of non-mediated power has a much higher impact on manufacturers' normative relationship commitment to suppliers (standardized coefficient: 0.87) than suppliers' use of mediated power does (standardized coefficient: 0.12). The suppliers' use of non-mediated power has a much lower impact on manufacturers' normative relationship

commitment to suppliers (standardized coefficient: 0.09) than customers' use of mediated power does (standardized coefficient: 0.90). Non-mediated power has a much higher influence on relationship commitment than mediated power does. From the analysis of last section, we also know that non-mediated power is more powerful to increase the supplier integration. The suppliers' use of more non-mediated power is better for the manufacturers' supplier's performance and financial performance.

The suppliers' use of mediated power can positively and significantly influence both manufactures' instrumental and normative relationship commitment to suppliers. But the suppliers' use of non-mediated power has little impact on manufactures relationship commitment to suppliers. For relationship commitment, manufacturer's instrumental and normative relationship commitment to the supplier has the equal impact. But manufacturer's instrumental relationship commitment has a higher influence on supplier's performance than manufacturers normative relationship commitment does. That means that, in China, the suppliers have a relative lower power on manufacturers than the power used by the manufacturers on the suppliers.

VI.   Conclusions

This study firstly examined the relationships between power, relationship commitment, supply chain supplier integration and manufacturers performance in the context of a holistic model that allowed for the simultaneous testing of these relationships based on the data from Mainland China and Hong Kong. With the growing awareness of power, relationship commitment and supply chain integration over the past decade, it is an important issue to improve the understanding of these variables and the associated relationships. Our research contributes to the supply chain management literature by proposing and empirically testing a supply chain supplier integration model. The model illustrates the effect of power, relationship commitments on supplier integration within the supply chain and manufacturers performance. This model can be used as a basis for further empirical work in supply chain management. Moreover, the knowledge of this model should provide some guidelines for managers as to how to direct their improvement efforts to achieve superior manufacturer's performance. In addition to the grounded theoretical benefits of applying our recommended practices, empirical validation enables the managers to adopt the most effective practices of supply chain management for enhancing their competitiveness in today's highly competitive global market place.

In conclusion, our study identified the factors of the supply chain supplier integration and the relationship between the factors and supplier integration. It investigated the relationship between two types of power and two types of relationship commitment and find that both types of power have the positive influence on supply chain supplier integration. Our model also revealed that manufacture

performance is dependent on the extent of the supply chain supplier integration.

There are some limitations in the power, relationship commitment and supply chain supplier integration model. The relationships between the two types of power are not explained. Environmental factors that can have a differential influence on supply chain supplier integration and relationship commitment are not included. Such as that trust is regards as one important factor impacts relationship commitment by many researches. There should be a classification of the companies from Mainland China and Hong Kong though they share the same Chinese culture and industry background.

The future research directions can be stimulated from the limitations of this research, i.e. the initiators of the supply chain supplier integration demand further research. The relationships between two types of power and between two types of relationship commitment should be identified. Other factors that impact power and relationship commitment should also be tested. Future studies could also focus on a better understanding of the differences between high and low performers from Mainland China and Hong Kong, and the process that can enable a low performer to become a high performer. The similar research about power, relationship commitment, customer integration and manufacture performance can be conducted.

VII.   Appendix

VII. 1   Construct Measurement

Financial performance (Fperf)
FPERF1: Growth in sales
FPERF2: Growth in profit
FPERF3: Growth in market share
FPERF4: Growth in ROI
FPERF5: Growth in return on sales
Normative Relationship Commitment to Supplier (Snrc)
SNRC1: We feel that our major supplier views us as being an important "team member," rather than our being just another customer
SNRC2: We are proud to tell others that we are a customer of this supplier
SNRC3: Our attachment to this supplier is primarily based on the similarity of our values and those of this supplier
SNRC4: During the past year, our company's values and those of the major supplier have become more similar
SNRC5: What this supplier stands for is important to our company
Instrumental Relationship Commitment to Supplier (Sirc)
SIRC1: Unless we are rewarded for it in some way, we see no reason to expend extra effort on behalf of this supplier
SIRC2: How hard we work for this major supplier is directly linked to how much we are rewarded
SIRC3: Bargaining is necessary in order to obtain favorable terms of trade with dealing with this supplier
Perceived Supplier Non-mediated Power (Snmp)

SNMP1: The people in the supplier's organization knew what they are doing
SNMP2: We usually got good advice from our major supplier
SNMP3: The supplier had specially trained people who really knew what had to be done
SNMP4: We really admire the way our major supplier runs their business, so we tried to follow their lead
SNMP5: Our major supplier's business expertise made them likely to suggest the proper thing to do.
Perceived Supplier Mediated Power (Smp)
SMP1: We had an obligation to do what the major supplier wanted, even though it wasn't a part of the contract
SMP2: Since they were the supplier, we accepted their recommendations
SMP3: We felt that by going along with the major supplier, we would have been favored on some other occasions
SMP4: By going along with the major supplier's requests, we avoided some of the problems other companies face
SMP5: Our major supplier often rewarded us to get our company to go along with their wishes
SMP6: The major supplier often hinted that they would take certain actions that would reduce our profits if we did not go along with their requests
Supplier integration (Si)
SI1: The level of information exchange with our major supplier through information network
SI2: The establishment of quick ordering system with our major supplier
SI3: The participation level of our major supplier in the process of procurement and production
SI4: The participation level of our major supplier in the design stage
SI5: Our major supplier shares their Production Schedule with us
SI6: We share our production plan with our major supplier
SI7: We share our demand forecast with our major supplier
SI8: We help our major supplier to improve their process to better meet our needs
Supplier's performance (Sperf)
SPERF1: Our major supplier can quickly modify products to meet our company's requirements
SPERF2: Our major supplier can quickly introduce new products into the markets
SPERF3: Our supplier has an outstanding on-time delivery record to our company
SPERF4: The supplier's lead time for fulfilling our company's orders (the time which elapses between the receipt of our order and the delivery of the goods) is short
SPERF5: Our major supplier provide high level of customer service to our company

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