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Indicators for relationships management between suppliers; logistics service providers and buyers: developing and testing a structural relationship model

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Abstract

This research examines the indicators for selecting logistics service providers, and the factors influencing buyer-provider relationships with a sample size of 260 electronics companies by Structural Equation Modeling (SEM) analysis and included six in-depth interviews with buyer managers. Key findings include the importance of service attentiveness, issue resolution, and customer engagement, while the organizational structure of providers was less critical. Attentiveness significantly enhances trust but must be coupled with effective, polite communication for strong relationships. Price is the primary factor in provider selection, while communication is essential for maintaining procurement relationships. Providers should focus on attentiveness and clear communication to build trust, alongside competitive pricing. Furthermore, in-depth interviews revealed that counterproductive relationships are more common in large companies whereas smaller companies have more collaborative relationships due to their size and closer interactions.

Keyword: Logistics service providers, Buyers, Supplier relationship management, Structural relationship model

Type of Article: Research Article

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ผ่านการรับรองคุณภาพจากศูนย์ดัชนีการอ้างอิงวารสารไทย (TCI.) อยู่ในกลุ่ม 2 สาขามนุษยศาสตร์และสังคมศาสตร์

ตัวบ่งชี้การจัดการความสัมพันธ์ระหว่างซัพพลายเออร์ที่ให้บริการด้านโลจิสติกส์และผู้จัดซื้อจัดหา: พัฒนาและทดสอบโมเดลความสัมพันธ์เชิงโครงสร้าง

นิตยา มณีวงศ์[1]* และ ปุณยวีร์ อวยชัยสวัสดิ์[2]

Abstract

การวิจัย มุ่งศึกษาตัวชี้วัดการเลือกผู้ให้บริการโลจิสติกส์ ปัจจัยที่มีอิทธิพลต่อความสัมพันธ์ระหว่างผู้จัดซื้อกับผู้ให้บริการ จากกำหนดกลุ่มตัวอย่างของบริษัทอิเล็กทรอนิกส์ 260 ชุดในแบบสอบถามโดยใช้การวิเคราะห์โมเดลสมการโครงสร้าง Structural Equation Modeling (SEM) และการสัมภาษณ์เชิงลึกจากผู้จัดการฝ่ายจัดซื้อ จำนวน 6 คน ผลการวิจัยพบว่า ความสำคัญของการให้ความสนใจบริการ การแก้ปัญหาและการมีส่วนร่วมของลูกค้า ในส่วนที่เป็นโครงสร้างองค์กรของผู้ให้ผู้บริการมีความสำคัญน้อยกว่า แต่การให้ความสนใจส่งเสริมความไว้วางใจอย่างมีนัยสำคัญ อย่างไรต้องควบคู่กับการสื่อสารอย่างมีประสิทธิภาพและสุภาพเพื่อความสัมพันธ์ที่แข็งแกร่ง ทั้งราคาเป็นปัจจัยหลักในการเลือกผู้ให้บริการ ในส่วนของการสื่อสารมีความสำคัญสำหรับการรักษาความสัมพันธ์ในการจัดซื้อ ผู้ให้บริการควรเน้นการให้ความสนใจด้านการสื่อสารที่ชัดเจนเพื่อสร้างความไว้วางใจควบคู่กับการกำหนดราคาที่แข่งขันได้ จากการสัมภาษณ์เชิงลึกยังพบว่า บริษัทอิเล็กทรอนิกส์ขนาดเล็กและใหญ่จะมีความสัมพันธ์ที่แตกต่างกัน บริษัทขนาดเล็กมักมีความสัมพันธ์แบบร่วมมือกันมากกว่าบริษัทขนาดใหญ่ โดยเฉพาะอย่างยิ่ง ขนาดที่บริษัทเล็กกว่า ความสัมพันธ์ที่ใกล้ชิดกว่าจะส่งเสริมให้เกิดความร่วมมือกันมากกว่า

คำสำคัญ: การคัดเลือกผู้ให้บริการโลจิสติกส์, ผู้จัดซื้อจัดหา, การจัดการความสัมพันธ์กับซัพพลายเออร์, โมเดลความสัมพันธ์เชิงโครงสร้าง

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ผ่านการรับรองคุณภาพจากศูนย์ดัชนีการอ้างอิงวารสารไทย (TCI.) อยู่ในกลุ่ม 2 สาขามนุษยศาสตร์และสังคมศาสตร์

1. Introduction

The electronics industry has become a major player in innovation and adaptation. Electronics companies will need to be multi-functional and provide diverse uses. It must have strong manufacturing capabilities, sustainable competitiveness, social and environmental responsibility.

Effective supply chain management in the electronics industry will be performed successfully by focusing on buying. The cost of purchasing goods and services in manufacturing companies takes up 60% and 80% of the total cost of goods sold. It also controls the total costs of the manufacturing process in an organization.

To decrease the complexity of the supply chain, logistics service providers can help companies meet their needs and reduce the total cost. As a result, companies need to focus more on supplier relationship management (SRM) and it has become a critical business process due to competitive pressures, risk mitigation, and cost efficiency (Lambert & Cooper, 2000). However, Shin et al. (2000) pointed out that there is a lack of studies in relationship between buyer-suppliers which are only theoretical and conceptual research on the competitive performance of manufacturing firms.

The published research has pointed out the important role of SRM and achieving performance between the buyer-supplier relationships. It needs more clarification in selecting appropriate providers within the supply chain. To develop a framework for electronic companies to indicate delivery reliability, attentive care, impression, Logistics service provider profile and price with the structural relationship model with the link between provider operation and buyer needs for good selection. Defining key operational indicators empowers electronics companies to identify the most suitable logistics partners.

2. Research's Objective

1. To study the level of indicators for Logistics Service Provider (LSP), selection, and relationship management between suppliers and buyers

2. To study the influential indicators of SRM for buyers and providers

3. To analyze confirmatory components and test the structural relationship model between buyers and logistics service providers.

3. The research framework

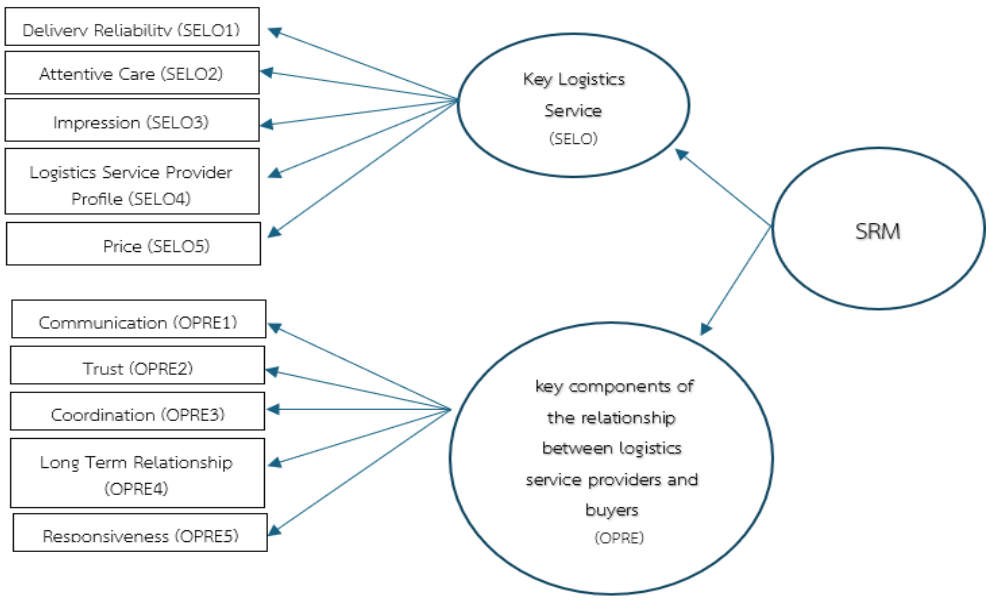

Figure 1 Research framework

4. Literature Review

4.1 The Procurement: The heart of supply chain

Procurement, essentially strategic purchasing, acts as the bridge in supply chains. It connects internal needs (manufacturing, services, and customers) and external suppliers (materials, products, consulting). The goal of the supply chain is to get the right things (7 R's) with quality, quantity, price, cost, time, and place to meet those needs and ultimately satisfy customers. This drives economic growth for the organization's offerings. (Taweesak, 2007)

The efficient purchasing process according to Monczka et al. (2015) consists of six-step: 1) identify needs 2) evaluate supplier 3) select and negotiate 4) approve purchases 5) manage order & delivery 6) evaluate supplier performance. It could be applied to purchasing or procurement interchangeably, but procurement is preferred in the supply chain. Both connect internal and external to ensure that the 7 R's fulfill internal needs and customers.

4.2 Logistics Service Provider: LSP

Logistics service providers (LSPs) have grown far beyond just renting warehouses (Goldsmith, 1989; Aghazadeh, 2003; Roques & Michraf, 2003; Filser & Pache, 2005). They offer a wide range of supply chain solutions, with different levels of integration: 1PL (First Party): Companies manage their logistics. 2PL (Second Party): LSPs provide basic transport & warehousing. 3PL (Third Party): LSPs offer transport, warehousing, and extras like order

fulfillment. 4PL (Fourth Party): Close partnerships focus on supply chain design and efficiency. 5PL (Fifth Party): LSPs manage logistics for multiple companies in a network, optimizing collaboration.

Reliable suppliers are the key to any organization's success (Changju & Katsuyoshi, 2018). SRM can strengthen partnerships and rely on mutually beneficial relationships. The key challenge lies in selecting the best suppliers who can consistently deliver the right materials, products, and services that meet the organization's needs for price, quality, and timely delivery.

LSPs have evolved from renting warehouses to offering supply chain solutions, from basic transportation and warehousing (1PL and 2PL) to more in order fulfillment (3PL), supply chain design (4PL), and network management (5PL). While reliable suppliers are important for organizational performance. The initial challenge is selecting suitable suppliers meeting organization requirements.

4.3 Supplier Relationship Management: (SRM)

Supplier relationship management (SRM) goes beyond just buying (Kraljic, 1983). It is about building strategic partnerships for mutual benefit (Lewis, 1995). The "Four C's" framework helps categorize the various supplier relationships with Collaborative (Win-Win): Deepest partnership for shared growth. Cooperative (Win-Win): Focuses on improved quality, delivery, and cost. Competitive (Win-Lose): One-sided focus on price, potentially risky. Adversarial (Lose-Lose): Focuses on short-term gain, damaging long-term value. For Collaboration involves a deeper level of partnership while Cooperation can lead to better product quality, on-time deliveries, and cost savings. (Monczka. et al., 2015)

SRM has been well-established, widely recognized and adopted within the field of logistics and supply chain management. The old way of seeing suppliers as competitors or adversaries is out (Sheth & Sharma, 1997). It has been replaced by collaboration. This is a key, like in Japan, where it ensures quality and on-time deliveries. Strong supplier relationships lead to happy customers (Leenders et al., 2006). SRM is strategic but needs careful planning to be effective (Easton et al., 2014).

SRM is a long-term strategy where buyers and suppliers collaborate on services, information, and technology (Lambert & Cooper, 2000). This develops better business performance and value creation through cost savings, innovation, and risk reduction (Poirier, 2006, Johnson et al., 2004; Brimancombe et al., 2011).

Furthermore, the effective SRM needs to have active contribution from two-side and requiring planning and implementation to obtain optimal results.

5. Research methodology

5.1 Research method

This research focuses on buyers' perspectives and suppliers' interaction during

the working process, gearing to identify the factors to successful working and contribute to a better relationship in the first place. To achieve the outcome of objectives by applying the quantitative method with questionnaires from 260 Electronic buyers and in-depth interviews with 6 managers or directors.

5.2 Population and sample

The research population consisted of buyers from 651 small and medium-sized electronics companies in The Bangkok Metropolitan Region.

The proposed research model was validated by distributing 260 survey questionnaires. Structural equation modelling (SEM) technique was used to analyze the results. In addition, in-depth interviews were conducted with top management, comprising the 6 managers or directors. They are the decision-makers in the buying process and drive value for the business.

5.3 Research instruments

The research tools for quantitative research method used a questionnaire, divided into 3 sections from three experts with the index of item Objective Congruence (IOC) = 1.00. Then it was tried out to obtain reliability value, where the obtained Cronbach's alpha Coefficient (α) = 0.931. The quantitative results were obtained through in-depth interviews.

5.4 Data collection

Data was collected from 260 out of 300 samples via online with google forms within six months. While collecting data from an in-depth interview, face to face interviews together with online interviews in the top-level management until all required data were appropriate.

5.5 Data analysis

Quantitative data analysis used descriptive statistics, confirmatory factor analysis (CFA Model), structural equation model (SEM) followed with an in-depth interview using directed content analysis and concluded with analytic descriptive.

6. Results

6.1 Quantitative research results

The profiles of 260 sample respondents: The findings in objective 1: The overall level of suitability of the provider selection indicators for logistics services providers is very high (Mean = 3.86, S.D. = 0.013). "attentive care" (Mean = 3.92, S.D. = 0.031); Willingness to provide service, followed by "impressive" (Mean = 3.90, S.D. = 0.017); Always listening to customers "price" (Mean = 3.88, S.D. = 0.050); discounts and price flexibility "delivery" reliability (Mean = 3.86, S.D. = 0.039); delivering right time "characteristics" (Mean = 3.78, S.D. = 0.046); one-stops service were seen as valuable.

The findings of objective 2: The analysis indicates that all factors are very suitable and influential (Mean = 3.84, S.D. = 0.027) in relationship management between LSPs and procurement departments. The Influential factors ranked from the highest and lowest average scores. "trust" (Mean = 3.89, S.D. = 0.016).

This is the most significant factor, emphasizing the importance of LSPs being seen as business support(Mean = 3.94, S.D. = 0.843) "coordination" (Mean = 3.86, S.D. = 0.039), Influential factor: continuous collaboration (Mean = 3.89, S.D. = 0.884) "response" (Mean = 3.85, S.D. = 0.030), LSP's willing to improve processes to meet the establishment's needs in highly value(Mean = 3.91, S.D. = 0.817) "communication" (Mean = 3.82, S.D. = 0.078), the establishment coordinates planning information with the LSP (Mean = 3.87, S.D. = 0.742) "long-term relationship" (Mean = 3.80, S.D. = 0.772). The process of evaluating and providing feedback to LSP (Mean = 3.88, S.D. = 0.77) contributes to building a strong relationship

The Structural Equation Model in Objective 3: Analyze confirmatory components and test the structural relationship model between buyers and logistics service providers. The findings of this research by figure 2.

Indicator	SELO1	SELO2	SELO3	SELO4	SELO5	OPRE1	OPRE2	OPRE3	OPRE4	OPRE5
SELO1	1.00									
SELO2	0.797**	1.00								
SELO3	0.768**	0.817**	1.00							
SELO4	0.738**	0.727**	0.741**	1.00						
SELO5	0.759**	0.809**	0.801**	0.761**	1.00					
OPRE1	0.701**	0.744**	0.729**	0.740**	0.764**	1.00				
OPRE2	0.710**	0.739**	0.731**	0.789**	0.757**	0.791**	1.00			
OPRE3	0.765**	0.776**	0.719**	0.783**	0.783**	0.748**	0.796**	1.00		
OPRE4	0.747**	0.768**	0.736**	0.784**	0.792**	0.760**	0.705**	0.802**	1.00	
OPRE5	0.706**	0.729**	0.703**	0.711**	0.754**	0.775**	0.783**	0.707**	0.765**	1.00

Remark: ** p<.01 * p<.05

Figure 2 Correlation coefficients between variables used in studies
The structural equation model

The analysis of Pearson correlation coefficients for the 10 indicator variables in Table 1 revealed that all 10 indicators are positively correlated with each other at a statistically significant level of .01 (p<.01). The indicator variables with the highest correlation are "attentive care" (SELO2) and "impressive" (SELO3), with a correlation coefficient of 0.817; "delivery reliability" (SELO1) and "communication" (OPRE1), with a correlation coefficient of 0.701.

Second Confirmatory Factor Analysis between Service Providers and Procurement for Logistics Service Providers is in Table 1.

Table 1 Results of the Second Confirmatory Factor Analysis to develop relationship management indicators between buyers and Logistics Service Providers.

Component	λ	SE	t	(R2)	**(FS)**	**(e)**
First-order confirmatory Factor Analysis (CFA)						
Key Logistics Service Provider Criteria (SELO)						
SELO1	0.9	-	-	0.82	0.04	0.18
SELO2	0.94	0.02	32.05	0.89	0.34	0.11
SELO3	0.92	0.03	28.18	0.85	0	0.15
SELO4	0.95	0.03	24.33	0.85	0.39	0.15
SELO5	0.96	0.03	27.48	0.92	0.39	0.08
Key components of relationship management (OPRE)						
OPRE1	0.95	-	-	0.9	0.31	0.1
OPRE2	0.94	0.02	32.25	0.89	0.37	0.11
OPRE3	0.89	0.03	25	0.79	0.24	0.21
OPRE4	0.88	0.03	25.91	0.78	-0.06	0.22
OPRE5	0.93	0.02	30.36	0.86	0.26	0.14
Second Confirmatory Factor Analysis						
SELO	0.98	0.02	31.22	0.96	-	0.04
OPRE	0.97	0.02	29.47	0.94	-	0.06

Chi-Square= 19.84, df = 18, p = 0.342, GFI =0.98, AGFI = 0.95, RMSEA = 0.020, CFI=1.00, NFI=1.00

Table 1 The Second-Order Confirmatory Factor Analysis Model for Relationship management indicators between buyer and logistics service providers showed a significant contribution. This model provides a framework for measuring and assessing the key dimensions in Figure 2: Second-Order Confirmatory Factor Analysis Model of Relationship management indicators.

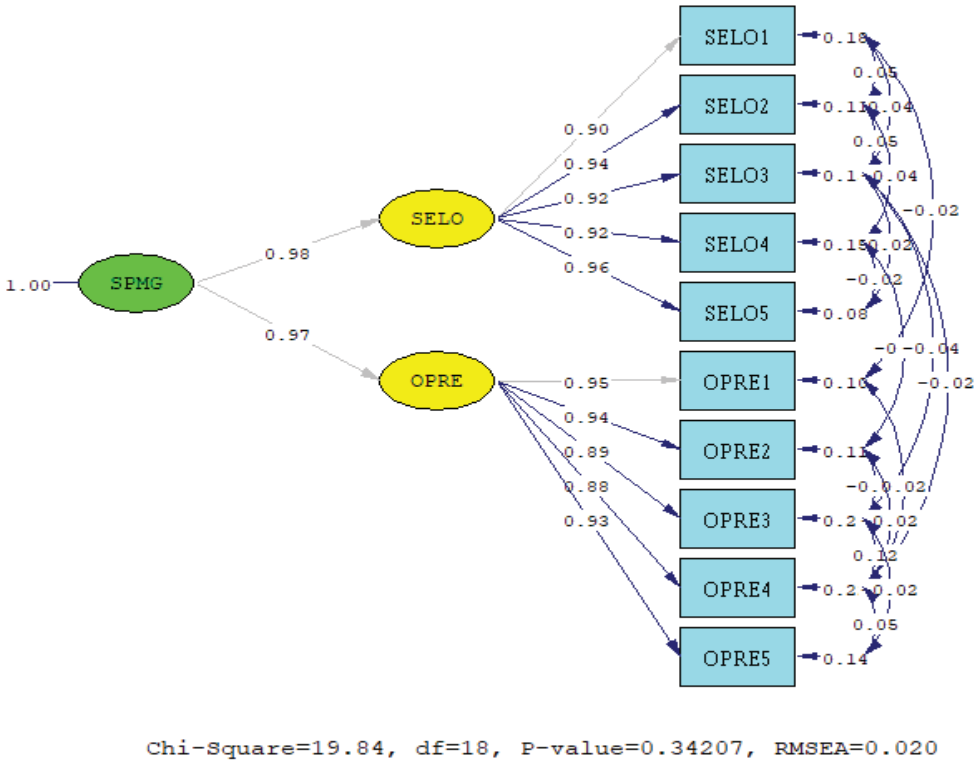

Figure 3 Results of SEM analysis

The key finding from Table 2 and Figure 2 Non-Significant Chi-Square Test: The chi-square (χ^2) test statistic is 19.84 with 18 degrees of freedom (df) and a p-value of 0.342. This non-significant p-value suggested that the χ^2 test does not reject the null hypothesis of model fit, indicating that the model adequately represents the observed relationships. The GFI (Goodness of Fit Index) of 0.98 and AGFI (Adjusted Goodness of Fit Index) of 0.95 were both above the recommended threshold of 0.90, indicating a good fit. RMSEA was 0.020 and the CFI and NFI were both 1.00, providing strong evidence of model fit.

The consideration of Table 2 and Figure 2 found that the factor loadings for the SELO and OPRE components were positive, with values of 0.98 and 0.97 respectively, and statistical significance at the .01 level for all indicators. The LSP Selection (SELO) components were positive from 0.90 to 0.96, at the .01 level for all indicators from the LSP Selection process (SELO) show a strong emphasis on pricing (0.90-0.96) alongside provider characteristics (SELO4: 0.95), attentiveness (SELO2: 0.94), professionalism (SELO3: 0.92), and reliable deliveries (SELO1: 0.90).

The Strong LSP relationship management (OPRE: 0.88-0.95) emphasizes clear communication (OPRE1: 0.95), trust (OPRE2: 0.94), responsive operations (OPRE5: 0.93), and collaborative efforts (OPRE3: 0.89) for successful

partnerships (OPRE4: 0.88).

Researchers created a logistics procurement scale using relationship management weights (replacing redundant coefficients (Wiriyasuphapong, 2002). The scale is SPMG = 0.98(SELO) + 0.97(OPRE), where SPMG is the overall score, SELO is the selection score (weight: 0.98), and OPRE is the relationship score (weight: 0.97).

In-depth Interview

In-depth Interview with 6 buyer managers or directors was composed as follows.

1. The provided information highlights the key strengths, weaknesses, opportunities, and threats (SWOT) analysis for a logistics provider. Strengths: resilient, efficient, timely deliveries. The partnership is less significant. Weakness: limited capacity for large clients. Lack of service specialization (minor weakness). Opportunities: Accessing new technologies, and involvement in emission reduction initiatives. Threats: Global challenges influencing expansion. Natural disasters (less threat).

3. The types of supplier-buyer relationships in logistics can be categorized into four types: adversarial, competitive, cooperative, and collaborative. The majority (5 out of 6) prefer cooperative or collaborative working relationships with logistics providers. This suggests a focus on long-term partnerships for mutual benefit. While some competitive pressure exists (1 out of 6), adversarial are absent.

4. Confirmatory Factor Analysis and Structural relationship model testing for Supplier-procurement relationships in logistics are competitive pricing, value-added services, multiple communication channels, and real-time updates (24/7) with customer support.

7. Discussion and conclusion

Analysis of Indicators (objective 1)

1) Attentive care: characterized by responsiveness and a commitment to resolving issues promptly, is the key to customer satisfaction, loyalty, and trust in logistics providers (Ruangsriroj & Vichitsiri, 2022; Siriporn, 2022)

2) Impressing becomes long-term partnerships by requiring delivering high-quality services, close parallel with Boonching (2020) on the importance of positive impressions for strong buyer-provider relationships. Additionally, responsiveness, a key element of service quality (Parasuraman et al., 1991), encourages trust and loyalty. 3) One-stop service may not be the top priority for electronics companies. They value specialized expertise and tailored solutions over a single, all-encompassing provider. Advanced technology is a potential factor, but its importance depends on individual needs supported by Gurcan et al. (2016).

Objective 2: The influential SRM is trust, collaboration, and responsiveness while the lower significance is communication and long-term relationships.

1) Attentive care builds trust in supplier-buyer relationships. Providers demonstrating

attentiveness understand customer needs and address them with care, fostering trust (Siguaw et al., 1998). Trust itself is important for strong partnerships (Lambert & Cooper, 2000) and collaboration (Sako, 1992).

2) Exchanging information and collaborating are fundamental to achieving business goals. It can help businesses learn and adopt new technologies effectively (Porter & Heppelmann, 2014).

3) Building strong relationships through responsiveness refers to a service provider's attentiveness and understanding of both parties' needs. They must inquire about the customer's exact needs and offer high-quality services throughout the process and after-sales support. The findings of Boonching (2020), emphasized prioritizing demand fulfillment for maintaining a long-term relationship between service providers and customers.

4) While communication may not be the most significant factor, clear communication builds strong business relationships by encouraging understanding and avoiding misunderstandings. It's key to delivering high-quality service (Chotipanich, 2020).

5) Long-term relationships may not be the only deciding factor. The provider selection can go beyond only price. They need to be sincere, transparent, reliable, and to understand their business needs. Buyers should consistently evaluate these qualities. The strong relationships are key, allowing providers to gather data and deliver valuable insight (Huang et al., 2019).

Objective 3: The study analyzes confirmatory components and tests the structural relationship model between service providers and buyers for logistics service providers. The key components in the selection of Logistics Service Providers (SELO5) model have the highest component weight (0.96), indicating that price is the most significant factor in determining the choice of a logistics service provider. Studies by Wachirawongpinya (2011); Khlaijai & Charoentrakulpeeti (2022); and Vadee & Suraraksa (2022) all support this result. It aligns with businesses aiming for profit through cost-effective operations. However, other factors like service quality and responsiveness are also important considerations.

The key component in the relationship between the logistics service providers (OPRE) model, the communication factor (OPRE1) has the highest component weight (0.95), displaying the key to clear and transparent communications for buyers and providers (Hongwichakit et al., 2016). It minimizes errors, improves collaboration, and receives efficiency.

In-depth Interview

SWOT analysis for Logistics Service Provider Relationships starts from strengths: In a competitive market, reliable, efficient, and timely logistics are the key players. On-time delivery influences providers, buyers, and customers. Delays can damage a brand's image; therefore, logistics should focus their focus on final customer satisfaction. Weakness:

large companies might outgrow mid-sized logistics providers. 1) Limited resources like staff, warehouses, trucks, and technology can make it hard for providers to handle high volume and complex needs. 2) Strategy for medium-sized LSPs should be designed to strategically target large buyers. This means analyzing their specific needs and developing customized solutions. Specialization in logistics functions within this industry can be optimized. 3) Building partnerships with other LSPs can expand capacity and expertise to service larger clients. opportunities: Environmental responsibility is a growing concern. By approaching "green logistics" (eco-friendly) packaging, fuel-efficient vehicles can be outstanding in the competitive market. threats: expansion considerations: economic climate, political stability, and social impact are concerning factors for LSPs, especially in uncertain times. Clear communication, trust, and strong partnerships are keys to success. Shift from adversarial to collaborative partnerships: Collaboration creates benefits for both LSPs and clients. However, smaller companies may struggle due to limited resources.

The Confirmatory Factor Analysis and Model Testing can be conducted with price, quality, and communication. Price is a key factor for all organizations. LSPs should offer competitive rates alongside high-quality service and clear communication. Provide easy-to-understand information and multiple contact options (email, phone, online) for buyers. Respond promptly to inquiries and actively seek feedback to improve services. Invest in staff training for effective communication skills.

8. Recommendation

8.1 Recommendations for implementing

To apply a structural equation was to explore the relationships between logistics service providers and buyers in the electronics industry. The characteristics of this group are rapid technological advancement, high competition, short product life cycles, and complex supply chains. Implement the SRM framework of both sides of the organization to increase performance continually. To provide successful models for other organizations by examining the influence of various factors such as interpersonal relationships, work attitudes, shared perceptions, and organizational culture, on the development of long-term partnerships.

8.2 Future research direction

The research design for this study was 1) Focus group discussion as a data collection tool in exploring a range of ideas, needs in between buyers and logistics service providers. To ensure that both opinions can be on track and align with the evolving vision 2) To specify key supplier relationship management: KSRM between buyers and logistics service providers openness developing future collaboration and strategic alignment.

เอกสารอ้างอิง

Aghazadeh, S. (2003). How to choose an effective third-party logistics provider? *Management Research News, 26*(7), 50–58. https://doi.org/10.1108/01409170310783583.

Boonching, P. (2020). *Increasing efficiency of purchasing and supplier management of Provincial Electricity Authority Region 2 Northeast (Ubon Ratchathani Province)*. Independent Study of the Degree of Master, Thammasat University.

Changju, K., & Katsuyoshi, T. (2018). The impact of retail buyer innovativeness on suppliers' adaptive selling in Japanese buyer–supplier relationships. *Journal of Marketing Channels, 25*(4), 173–183. https://doi.org/10.1080/1046669X.2019.1658011.

Chotipanich, C. (2020). Factors affecting the relationship between suppliers and procurement. *Journal of Business Administration and Accountancy, 4*(1), 1–16.

Easton, S., Hales, M. D., Schuh, C., Strohmer, M. F., & Triplat, A. (2014). *Supplier relationship management: How to maximize vendor value and opportunity*. Apress.

Filser, M., & Paché, G. (2005). *Can we speak of a wheel of retail logistics? The contribution of the wheel of retailing model. The Proceedings of the 10th Logistics Research Network Conference*, Logistics Research Network. 155–161.

Goldsmith, B. E. (1989). *Work and family: Theory, research, and applications*. Sage.

Gürcan, Ö. F., Domaç, İ., & Ülgen, O. F. (2016). Third-party logistics (3PL) provider selection with AHP application. *The Proceedings of the 12th International Strategic Management Conference (ISMC 2016), 21–23 July 2016, Antalya, Turkey*. Elsevier, 21–23.

Hongwichakit, K., Ratanawiboonsom, W., & Liamprecha, N. (2016). Purchasing performance to buyers and supplier relationships in automotive parts industry. *Rajabhat Phra Nakorn Journal, Humanities and Social Sciences, 11*(2), 11–24.

Huang, S. T., Bulut, E., & Duru, O. (2019). Service quality evaluation of international freight forwarders: Empirical research in East Asia. *Journal of Shipping and Trade, 4*, 14. https://doi.org/10.1186/s41072-019-0053-6.

Johnson, J. L., Sohi, R. S., & Grewal, R. (2004). The role of relational knowledge stores in interfirm collaboration. *Journal of Marketing, 68*(3), 21–36.

Khlaijai, K., & Charoentrakulpeeti, W. (2022). Factors affecting decision-making of providers of logistics transportation for agricultural processed food entrepreneurs in Sansai District, Chiang Mai Province. *Journal of Peace Periscope, 3*(2), 13–22.

Kraljic, P. (1983). Purchasing must become supply management. *Harvard Business Review, 61*, 109–117.

Lambert, D. M., & Cooper, M. C. (2000). Issues in supply chain management. *Industrial Marketing Management, 29*(1), 65–83. https://doi.org/10.1016/S0019-8501(99)00113-3.

Leenders, M. R., Johnson, P. F., Flynn, A. E., & Fearon, H. E. (2006). *Purchasing and supply management: With 50 supply chain cases.* 13th ed.. McGraw Hill/Irwin.

Monczka, R. M., Handfield, R. B., Giunipero, L. C., & Patterson, J. L. (2015). *Purchasing and supply chain management*. 6th ed.. Cengage Learning.

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1991). SERVQUAL: A multiple item scale for measuring consumer perceptions of service quality. *Journal of Retailing, 64*(1), 12–40.

Poirier, C. C. (2006). *Supplier relationship management* (CSC proprietary report). Computer Sciences Corporation.

Porter, M. E., & Heppelmann, E. J. (2014). How smart, connected products are transforming competition. *Harvard Business Review*. *92*(11).

Roques, T., & Michrafy, M. (2003). Logistics service providers in France – 2002 survey: Actors, perceptions and changes in practices. *Supply Chain Forum, 4*(2), 34–52.

Ruangsriroj, T., & Vichitsiri, A. (2022). The factors influencing value creation of halal logistics service during a crisis: A case study of halal logistics service providers in Thailand. *Asian Journal of Business Research, 1*(2).

Sako, M. (1992). *Prices, quality, and trust: Inter-firm relations in Britain and Japan*. Cambridge University Press.

Sheth, J. N., & Sharma, A. (1997). Supplier relationships: Emerging issues and challenges. *Industrial Marketing Management, 26*(2), 91–100.

Shin, H., Collier, A., & Wilson, D. (2000). Supply management orientation and supplier/buyer performance. *Journal of Operations Management, 18*(3), 317–333. https://doi.org/10.1016/S0272-6963(99)00031-5.

Siguaw, J., Simpson, P., & Baker, T. (1998). Effects of supplier market orientation on distributor market orientation and the channel relationship: The distributor perspective. *Journal of Marketing, 62*(3), 99–111.

Siriporn, W. (2022). Demand of logistics service provider to electronic entrepreneur in Thailand. *Journal of Management and Innovation, 17*(1), 1–16.

Taweesak, T. (2007). *Logistics management*. Bangkok: Expernet.

The Chartered Institute of Logistics and Transport. (2022). *7 Rs of logistics.* Retrieved 10 June 2023, From: https://www.linkedin.com/pulse/7-rs-logistics-easybox- logistics-company/.

Vadee, T., & Suraraksa, J. (2022). *Evaluation of factors for transportation service providers selection considering sustainability* [Research report]. Burapha University Institutional Repository. http://ir.buu.ac.th/dspace/handle/1513/590.

Wachirawongpinya, B. (2011). *Decision-making on the use of logistic services by businesses in AMATA Industrial Estate, Chonburi.* Thesis of the Degree of Master, Burapha University Research Information.

Wiriyasuphapong, P. (2002). *The development of composite indicators for academic excellence in universities* [Research report]. NRCT Digital Repository of Innovation and Creativity (DRIC). https://dric.nrct.go.th/Search/SearchDetail/272418.