

RESEARCH ARTICLE

An Empirical Analysis of Factors Affecting Customer Loyalty to Sea Freight Forwarders in Thailand

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Abstract: Thailand has become one of the world's most significant production bases and therefore, must rely on international sea transportation to move cargo. The primary goal of this paper is to develop a structural equation model to examine how service quality, relationship quality, and customer satisfaction affect customer loyalty. The study sampled 2,029 subjects—company managers, service users, and freight forwarders—in three specific industries: computer and electronics components, automotive and original equipment, and agricultural products. It deployed quantitative research methods and applied a seven-point rating scale in a structured questionnaire to analyze the relationships among the variables. The findings indicate that service quality affects both customer satisfaction and relationship quality, which ultimately affect customer loyalty.

Keywords: customer loyalty, customer satisfaction, customer loyalty, customer satisfaction, relationship quality, sea freight forwarders in Thailand, service quality, service quality

Thailand is a production base and support platform for the supply of materials and parts in the manufacture of industrial goods, agricultural products, and products in the agro-industry, including minerals and fuels. These products are important in responding to customer demands worldwide, in both the consumer and industrial sectors. Judging by the global demand for goods, together with statistical export reports for Thailand, supply quantity is strongly related to industrial growth in the freight forwarder business when the quantity of goods, cost, time, and other factors are taken into consideration. The value of exports in 2014 amounted to 7.31 billion Thai baht, and in 2013, exports were worth 6.91 billion Thai baht. In 2012, ocean freight yielded the highest

volume—nearly 101.34 trillion tons—followed by land transportation with a volume of 12.38 trillion tons and air transportation with a volume of 0.43 billion tons (Customs Department, 2016). In 2012, the value of exports by type of transportation was highest for sea freight at 4.89 billion Thai baht and a proportion of 69.06%, followed by air freight, 1.58 billion Thai baht and 22.31%, and land transportation, 0.60 trillion Thai baht and 8.40% (Customs Department, 2016). Statistically, international sea freight is the most important vehicle for the delivery of Thai merchandise.

The freight forwarder business is closely associated with international trade in that most of the country's income comes from exports, and freight forwarders act as a major medium in international transportation

(Wisegeek, 2003) by facilitating the movement of products to foreign destinations through ocean freight and by gathering documents related to such transportation. Freight forwarders have the advantage of not owning fixed assets (such as transport vessels), exempting them from bearing the heavy costs associated with transportation. They can, therefore, easily adapt to changing market conditions and remain flexible with respect to referring business to other service providers in different sectors, allowing them to offer multimodal rather than single-mode transportation packages (Kokkinis, Mihiotis, & Pappis, 2006). These packages may include multimodal storage, packaging, provision of additional services and consultation related to customs, budget allocation, provision of product insurance, collection and payment, gathering of proper documentation for products, provision of freight services, modern logistics with updated data and communication technology to link to freight services or storage, and supply chain management. These services are adaptable to meet the need for service flexibility (Maegerle, 2004), as is apparent in the many roles of international freight forwarders. They interact with numerous stakeholders, including various agencies with which they maintain good working relationships. Their relationship with customs officers, which can create complicated situations, is another reason that exporters approach freight forwarders for assistance. Freight forwarders focus on business improvement and increasing their capacity to provide extensive services due to fierce competition based on selected service forwarders that require international freight forwarders to provide reliable services with speedy delivery and reasonable transportation costs, steady service, network availability, monitoring systems (to keep track of merchandise), and customer feedback systems (Thai National Shippers' Council, 2012).

Thailand is a member of the Association of Southeast Asian Nations (ASEAN), which became the ASEAN Economic Community (AEC) in 2015. Initially, in 2011, Thailand had 960 international freight forwarder companies, a number that increased to 1,080 in 2012 and 1,146 in 2013 (Thailand Logistics Directory, 2013). These numbers represent an 8.43% increase in new freight forwarder companies from 2011 to 2012, due to the economic expansion in the previous five years and the higher export volume that contributed to the growing demand for sea transportation. Because the number of freight forwarder companies continues

to increase, strength and competitive advantage are essential elements for gaining maximum customer loyalty (Thai National Shippers' Council, 2012) as the number of service users can affect the number of available services. In the course of the the competition, service providers strive to meet customer demands by focusing on a better and more tangible quality of service (Huang, Kuo, & Xu, 2009) and by building customers' confidence through quick responses and immediate solutions to problems (Farn & Huang, 2009). To gain the satisfaction of their customers, freight forwarders place emphasis on understanding customers' needs and providing high-quality service (Schiffman & Kanuk, 2007), such as on-time delivery, willingness to cooperate, handling of merchandise with care and safety, proffering fair service fees with a focus on customer satisfaction, and maintaining a strong connection with customers by building trust that leads to joint business agreements (Hoyer & MacInnis, 2007). Therefore, service providers must seek the best approaches that ensure ideal environments to retain customer loyalty by presenting customers with valuable transactions. This need has led to research on variables that affect customers' loyalty to international sea freight forwarders in Thailand.

Although more economic growth is expected, leading to growth in the overall business of sea freight forwarders in Thailand, more new competition in the business is also anticipated. Sea freight businesses, therefore, must build customer loyalty so that their businesses can survive and remain relevant amid the competition.

Given the significance of the sea freight forwarder business in Thailand, it is important to develop a structural equation model of variables that affect customer loyalty to sea freight forwarders so that organizations striving for high-quality service, strong relationships, and a focus on gaining customers' satisfaction can accomplish their set goals. The study's objectives are therefore to: (1) develop a structural equation model of service quality, relationship quality, customer satisfaction, and effect on customer loyalty of sea freight forwarders in Thailand; (2) examine factors of service quality, relationship quality, and customer satisfaction with respect to customer loyalty of sea freight forwarders in Thailand; and (3) analyze the direct, indirect, and total effects of service quality, relationship quality, and customer satisfaction on customer loyalty of sea freight forwarders in Thailand.

The results of this research can benefit sea freight forwarding operators in Thailand, enabling them to improve their customer service and service quality.

Literature Review

Customer Loyalty

Customer loyalty is defined as a customer's consistent satisfaction with or consistent purchase of a certain product or brand over an extended period (Schiffman & Kanuk, 2007). The concept of customer loyalty also reflects a customer's specific need for a certain brand (Copeland, 1923). However, such definitions have evolved over time. Specifically, prior to 1970, customer loyalty was judged only through behavioral loyalty, measured mainly by continuous purchases; later, attitudinal loyalty was added. In 1994, the two aspects were combined in the concept of composite loyalty. In sum, customer loyalty is the customer's determination to repurchase a product and use a service regularly in the future, even under the influence of environmental changes and external marketing temptations. These customers' minds remain unchanged even when they have the option to use other brands or services (Oliver, 1999).

To build loyalty, a company must reinforce a strong relationship with customers for long-term success and must perceive this relationship as a financial value-added-added that benefits society and also strengthens the business structure (Parasuraman, Berry, & Zeithaml, 1991). Keep in mind, though, that the process of building loyalty and retaining customers hinges on understanding consumers' decision making and behavior.

Customer loyalty, the assessment outcome after products are consumed, or services are engaged, can be explained through the concept of consumer behavior related to an individual decision to select, purchase, or use a product to fulfill a desire (Solomon & Rabolt, 2009). Research findings indicate that customer loyalty occurs when the customer is satisfied with the quality of the service received (Huang et al., 2009). Moreover, loyalty is directly associated with service quality (Chen & Lee, 2008; Farn & Huang, 2009), and perceived service quality affects the relationship between the business and the customer and customer loyalty (Bloemer, De Ruyter, & Wetzels, 1999). Customer loyalty is directly impacted by a customer's satisfaction when receiving high-quality service.

Furthermore, loyalty is directly related to quality control (Hu & Huang, 2011), including the quality of the relationship between the customer and the service provider. Other studies also show that these aspects are related to customer loyalty (Huang, 2012; Rauyruen & Miller, 2007).

This study found that customer loyalty can be summarized by the hypothesis "Customer loyalty is a direct result of customer satisfaction and relationship quality," with customer satisfaction and relationship quality resulting from service quality.

The literature review of customer loyalty suggested measuring loyalty in the four following aspects:

1. **Repurchase intention** is when the customer displays behavior that indicates a desire and commitment to repeat his or her use of the same service (Chen & Quester, 2006; Griffin, 1995; Jacoby & Chestnut, 1978; Pong & Yee, 2001);
2. **Purchase frequency** is when the customer displays a need to regularly engage in the service provided, as shown by the volume or number of services (Chen & Quester, 2006; Jacoby & Chestnut, 1978; Pong & Yee, 2001);
3. **Word of mouth** is when a customer's behavior is displayed through conversation, telling a story, or presenting to a listener, trade partner, or alliance an acknowledgment of the quality of the service and confidence in, relationship with, and trust in the organization (Boxer & Rekettye, 2011; Caceres & Paparoidamis, 2007; Chen & Quester, 2006; Jirsak & Kolar, 2012; Pollack, 2009); and
4. **Price insensitivity** is when the customer displays loyalty through a commitment to not switch to other products, with or without an increase in the price of the product (Boxer & Rekettye, 2011; Pong & Yee, 2001; Zeithaml, Berry, & Parasuraman, 1996).

Service Quality

According to Zeithaml and Bitner (2003), service quality consists of the action, the process and the performance outcome. Service quality possesses the unique characteristic of focusing on the following three sub-systems: service performance, service delivery, and communication (Lovelock, 1996). Service quality is based on and determined by the customer's

perception as a result of the comparison that customers make between their expectations from a service and their perception of the way that the service has been performed (Grönroos, 1990; Parasuraman, Zeithaml, & Berry, 1985). A number of experts define service quality in slightly different ways. Parasuraman et al. (1985) defined it as the difference between customers' expectation of services and their perception of the service received. If the expectation is greater than the service performance, the perceived quality is less than satisfactory; hence, customer dissatisfaction occurs. Asubonteng, McCleary, and Swan (1996), Dotchin and Oakland (1994), and Lewis and Mitchell (1990) defined service quality as the extent to which a service meets customers' needs and expectations.

Previous studies of service quality reveal that business customers were satisfied and loyal in the transportation industry in Taiwan and ranked service quality as the top priority (Hu & Jen, 2010). Furthermore, it is found that if customers are satisfied with service quality, they are willing to pay increased service fees (Garga & Bambale, 2016). Corporate customers in Malaysia and Qatar showed high scores of customer satisfaction with service quality (Kassim & Abdullah, 2010).

The study of service quality can be validated with the understanding that the quality of service can affect customer satisfaction.

The findings suggest the five following indicators of service quality:

1. **Tangibility** is concrete and transparent and includes elements such as location, staff, vehicles, and movement and transportation of the equipment or documents used in communication and protocol (Brady & Cronin, 2001; Dabholkar, Shepherd, & Thorpe, 2000; Hu & Huang, 2011; Zeithaml et al., 1996);
2. **Reliability** is the ability to operate as per agreement with quality and precision, providing accurate services each time with the same results and consistency, on time, and with the ability to track merchandise so that customers gain confidence and trust in the operation (Brady & Cronin, 2001; Dabholkar et al., 2000; Hu & Huang, 2011; Zeithaml et al., 1996);
3. **Quick responsiveness** is the willingness to provide services in such a way that customers can access them more conveniently as a result of the prompt response (Brady & Cronin, 2001; Hu & Huang, 2011; Zeithaml et al., 1996);
4. **Assurance** is gaining customer confidence by demonstrating the provision of services with the skills, knowledge, and ability to meet the customer's need while serving customers with courtesy and maintaining their trust with the guaranteed satisfactory delivery of merchandise (Brady & Cronin, 2001; Dabholkar et al., 2000; Hu & Huang, 2011; Zeithaml et al., 1996); and
5. **Empathy** is the understanding that customers' needs differ and treating every customer without discrimination and with respect (Brady & Cronin, 2001; Dabholkar et al., 2000; Hu & Huang, 2011; Zeithaml et al., 1996).

Relationship Quality

Relationship quality is a strong bond between the customer and the organization. The customer's consideration is satisfied by trust, which can develop into loyalty (Pepur, Mihanović, & Pepur, 2013). The focus is on relationships and how to evaluate the overall strength of the relationship between organizations and their customers (Zeithaml et al., 1996). This strength is displayed by the customer's trust and confidence in the future performance of the provider because past performance has been satisfactory (Sun, Zhang, & Xiao, 2007). The customer's involvement influences his or her satisfaction, loyalty, and trust (Wetsch, 2006), which reflect the overall relationship between the customer and the organization. Trust, satisfaction, and commitment to joint resolutions are evidence of the strength of the relationship between the provider and the customer (Hennig-Thurau, Gwinner, & Gremler, 2002).

Payne (1993) stated that relationship marketing focuses on customer service and service quality by integrating these variables to create long-term relationships with customers.

Palmatier, Dant, Grewal, and Evans (2006) indicated that relationship quality is an overall evaluation of relationship strength. Relationship quality has become a significant element in identifying customers' trust in service providers and confidence in continuing service quality and efficiency.

Jang (2011) extended a study of knowledge of marine transport in the business-to-business context and found that a mutually good relationship can result in customer loyalty.

The importance of studying relationship quality is emphasized by the assumption that the relationship quality arises from the service quality and that the relationship quality affects customer satisfaction and customer loyalty.

The literature review of relationship quality suggests measuring it in the following three aspects:

1. **Trust** is the security that customers feel in the service of the firm and the belief that the organization is a capable one, resulting from positive service provided through speech, action, or decisions made at appropriate times (Hsieh & Li, 2008; Ivens & Pardo, 2007; Rauyruen & Miller, 2007; Ulaga & Eggert, 2006);
2. **Relationship satisfaction** comprises feelings of happiness and contentment with the relationship between the customer and the service provider (Hsieh & Li, 2008; Ivens & Pardo, 2007; Rauyruen & Miller, 2007; Ulaga & Eggert, 2006); and
3. **Commitment** is joint action to achieve operational procedures under an agreed common condition of conducting business together (Hewett, Money, & Sharma, 2002; Ivens & Pardo, 2007; Rauyruen & Miller, 2007; Walter, Müller, Helfert, & Ritter, 2003).

Customer Satisfaction

Satisfaction relates to a person's sense of fulfillment or disappointment caused by comparing the perceived performance with his or her expectations (Madinios & Theodoridis, 2010). A major factor in the success of a business is discovering issues related to corporate services by acquiring information on what aspects of the organization cause customer satisfaction or dissatisfaction. The implementation of solutions based on these aspects should be prioritized to improve the business so that it can regularly meet its customers' needs and expectations (Thuy, 2010). A person's sense of satisfaction or dissatisfaction results from a comparison between his or her perception of the quality of the product or service delivered and his or her prior expectations (Kotler & Keller, 2009). Satisfaction results when customers

are overjoyed with the quality of their experience (consumption-related fulfillment; Lam, Shankar, Erramilli, & Murthy, 2004) and feel pleased with the response from the service provider, which drives a comparison between what were once the norms of service and the customers' expectations.

The increased number of transport firms has led to higher competition and more choices for customers; therefore, building customer satisfaction has become more important in retaining current customers (Swathy, 2016). Previous studies on customer satisfaction demonstrate various indexes for measuring customer satisfaction by rating customers' repeat usage and word of mouth (Flavián, Guinalú, & Gurrea, 2006; Zins, 2001).

The review of the literature related to customer satisfaction reveals the following five measurements:

1. **On time** is when merchandise is delivered to a customer by the exact agreed-upon date and time (Kaleappan, 2006; Priya & Vignesh, 2012; Wang, 2002; Zlatković, 2013);
2. **Courtesy** is the expression of the feelings and emotions of the service staff, either verbally or through actions, to willingly respond to the customer's needs (Theppitak, 2009; Wang, 2002; Zlatković, 2013);
3. **Safety** is the operational outcome during the transportation of merchandise, specifically without damaging goods in the process (Indian Ports Association, 2013; The Michigan Department of Transportation, 1997; Zlatković, 2013);
4. **Communication convenience** refers to the activity or channel for sharing information or handling customers' complaints conveniently and on time in response to the customers' demand (Abdel-Maksoud & Kawam, 2009; Kaleappan, 2006; Priya & Vignesh, 2012; Wang, 2002); and
5. **Freight rates** are the cost that customers who engage transportation services must be responsible; such rates are determined by observing customers' needs and the volume of transport goods (Priya & Vignesh, 2012; The Michigan Department of Transportation, 1997; Thuy, 2010).

After the review of the relevant literature, the research model was designed, as shown in Figure 1.

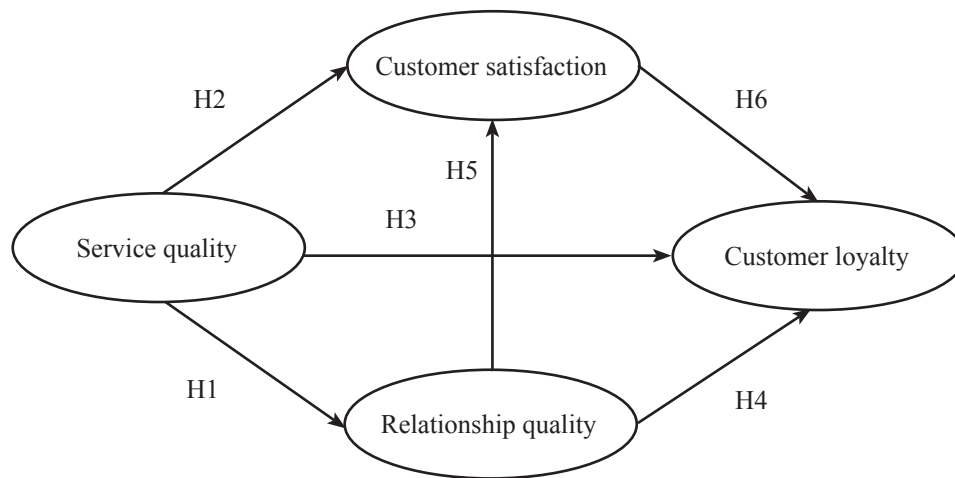


Figure 1. Conceptual framework..

The hypotheses are formulated as follows:

Hypothesis 1 (H1): Service quality has a direct effect on relationship quality.

Hypothesis 2 (H2): Service quality has a direct effect on customer satisfaction.

Hypothesis 3 (H3): Service quality has a direct effect on customer loyalty.

Hypothesis 4 (H4): Relationship quality has a direct effect on customer loyalty.

Hypothesis 5 (H5): Relationship quality has a direct effect on customer satisfaction.

Hypothesis 6 (H6): Customer satisfaction has a direct effect on customer loyalty.

Methods

Questionnaire Design

A questionnaire was developed as the instrument to measure the concept and definition using a 7-point Likert scale (Likert, 1972), as illustrated in Table 1. Five experts were engaged to verify the accuracy of the questionnaire before finding the index of the item-objective congruence (IOC) to select the IOC with a value over 0.5. Later, the questionnaire was modified and administered to 30 samples to collect primary data for testing with the α -coefficient of Cronbach to find the average correlation coefficient through the

empirical evidence with reliability over 0.70, indicating high reliability.

The analysis of the the accuracy and reliability of the measurement model was performed through the application of the α -coefficient of Cronbach to calculate the mean of the coefficient. The value was found to be between 0.805 and 0.925, which is considered a high level of reliability.

Data Collection and Data Analysis

This research classified the population into three groups with the highest-value use of simple random sampling of the population.

Researchers have determined the optimal size of sample populations coupled with several several independent variables based on the analysis of the structural equation model (Schumacker & Lomax, 1996). Other approaches can also be used to obtain an accurate representative sample of the population. According to Hair, Black, Babin, Anderson, and Tatham (2006), the sample size considered for this study is large enough to be reliably used in the data analysis by applying the structural equation model. The distribution of information is according to the normal curve.

Based on the requirements of this study, we studied a total of 17 observed variables with a total of 480 samples. This number is well within the recommended sample size. It is, therefore, appropriate to use the AMOS program to analyze the

Table 1*Research Findings and Conclusions for Observed Variables*

Exogenous latent variables	Empirical variables	Source of research for questionnaire design
Service quality	<ol style="list-style-type: none"> 1. Tangibility 2. Reliability 3. Responsiveness 4. Assurance 5. Empathy 	Banomyong and Supatn (2011), Pollack (2009), Chen and Lee (2008), Kabir and Carlsson (2010), Thai National Shippers' Council (2012)
Mediating variables	Manifest variables	Source of research for questionnaire design
Relationship quality	<ol style="list-style-type: none"> 1. Trust 2. Relationship satisfaction 3. Commitment 	Hennig-Thurau et al. (2002), Hewett et al. (2002), Hsieh and Li (2008), Ivens and Pardo (2007), Rauyruen and Miller (2007), Ulaga and Eggert (2006), Walter et al. (2003)
Customer satisfaction	<ol style="list-style-type: none"> 1. On time 2. Courtesy 3. Safety 4. Communication convenience 5. Freight rates 	Banomyong and Supatn (2011), Indian Ports Association (2013), Kaleappan (2006), Kim (2007), Zlatković (2013), The Michigan Department of Transportation (1997), Thuy (2010), Wang (2002)
Endogenous latent variables	Manifest variables	Source of research for questionnaire design
Customer loyalty	<ol style="list-style-type: none"> 1. Repurchase intention 2. Purchase frequency 3. Word of mouth 4. Price insensitivity 	Chen and Quester (2006), Boxer and Rekettye (2011), Jacoby and Chestnut (1978), Jirsak and Kolar (2012), Pong and Yee (2001), Caceres and Paparoidamis (2007)

relationships between variables. The demographic characteristics of the sample used for data collection are shown in Table 2. The information in Table 2 is not used for the development of the model in Figure 1, as all the 480 samples were processed as one aggregate group.

Results

Measurement Model

Analysis of the measurement model was performed with the AMOS statistical software and assessed the compatibility of the empirical evidence and the measurement model as required. This was used to verify factors or latent variables measurable by observation for various variables.

The observed variables tangibility, reliability, responsiveness, assurance, and empathy significantly influence service quality. Those that have the greatest

influence on service quality were found to be empathy at 0.847 and reliability at 0.795.

The observed variables trust, relationship satisfaction, and commitment significantly influence relationship quality. Those that have the greatest influence on relationship quality were found to be trust at 0.902 and commitment at 0.868.

The observed variables time, courtesy, safety, communication convenience, and freight rates significantly influence customer satisfaction. Those that have the greatest influence on customer satisfaction were found to be freight rates at 0.876 and communication convenience at 0.828.

The observed variables repurchase intention, purchase frequency, word of mouth, and price insensitivity significantly influence customer loyalty. Those that have the greatest influence on customer loyalty were found to be purchase frequency at 0.899 and repurchase intention at 0.850.

Table 2
Demographic Characteristics of the Sample

Variables	Samples (n = 480)	
	Frequency	Percentage
Product groups		
Agro-industry	160	33.33
Automotive and original equipment	160	33.33
Computer and electronics components	160	33.33
1. Gender		
Male	331	69.0
Female	149	31.0
2. Age		
30 years and under	42	8.8
31-40 years	254	52.9
41-50 years	157	32.7
Over 51 years	27	5.6
3. Highest educational level		
Bachelor	276	57.5
Master	198	41.3
Other	6	1.3
4. Service recipient years of experience		
1 year and under	26	5.4
2-5 years	209	43.5
6-10 years	180	37.5
Over 10 years	65	13.5
5. Educational discipline completed		
Accounting	36	7.5
Business	33	6.9
Economics	9	1.9
Engineer	58	12.1
Food science	29	6.0
General management	36	7.5
Industrial engineer	45	9.4
International business	12	2.5
Logistics	23	4.8
Marketing	56	11.7
MBA	81	16.9
MBA logistics	15	3.1
Industrial management	12	2.5
Political science/law	7	1.5
Science/technology	18	3.8
Arts/communications	10	2.1

Structural Equation Model

Multivariate analysis, factor analysis, and multiple regressions were performed together, which should assist the researcher within a single attempt (Hair et al., 2006). Through the application of structural equation modeling (SEM) and AMOS to evaluate the data-model fit, the maximum likelihood (ML) value was found. The significant statistical method for fit between the empirical model and the theoretical model was p-value, having significance (Sig.) of over 0.05. After testing, the findings indicated that the empirical model and theoretical model matched, using the following criteria as the measurement: ((1) chi-square/degree of freedom (χ^2/df) should be less than 5.00 (Bollen, 1989); ((2) root mean square error of approximation (RMSEA) should be less than 0.8 (Schumacker & Lomax, 2004); ((3) goodness of fit index (GFI) should have a value close to 1 (Tanaka & Huba, 1985); ((4) comparative fit index (CFI) value should be between 0 and 1, but a value close to 1 indicates the suitability of the model (Bentler, 1990); and ((5) comparative fit index such as normed fit index (NFI) should be between 0 and 1, but a value close to 1 indicates the suitability of the model

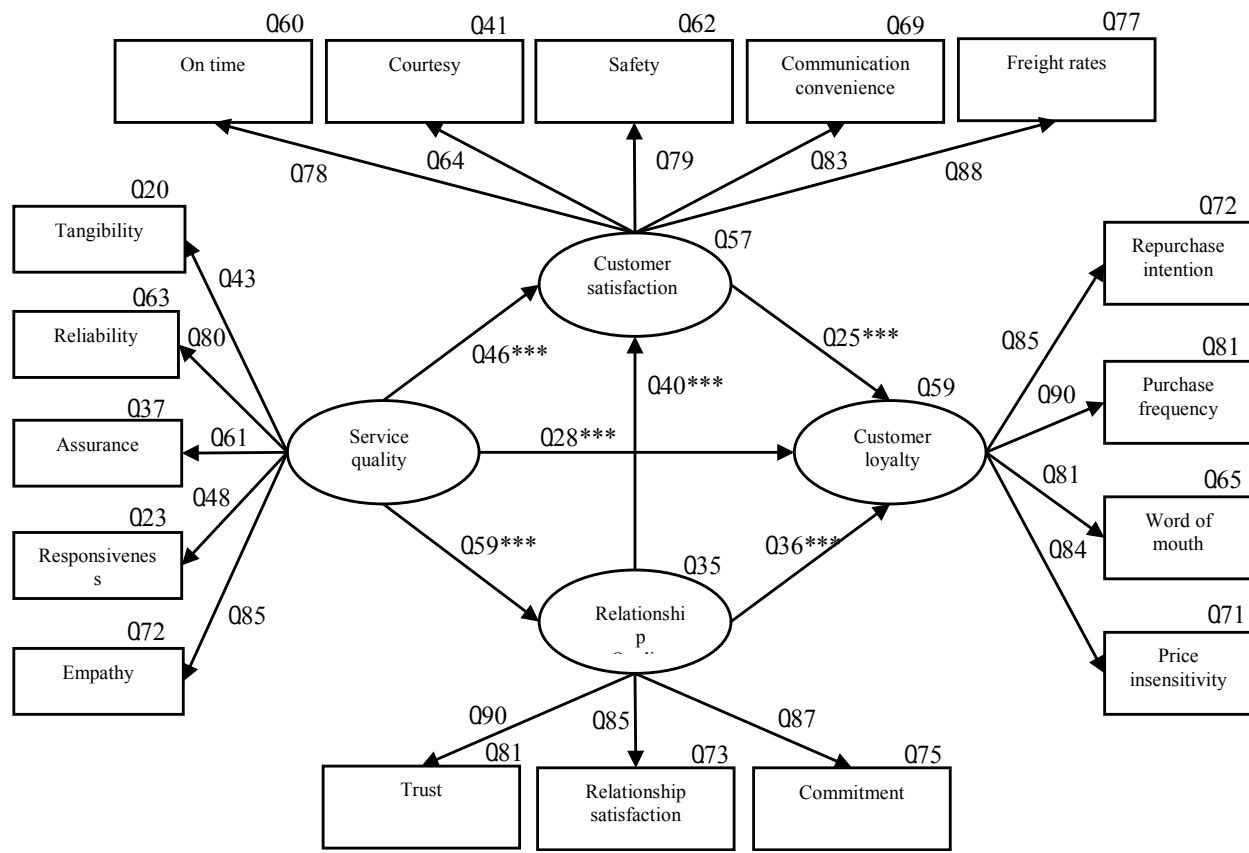
(Bentler, 1990). The results of the confirmatory factor analysis (CFA) were derived from the application of AMOS version 21 to assess the suitability between the empirical evidence (see in Table 3) and SEM as intended, including the test results of the research hypothesis. The overall GFIs of the CFA measurement model indicate a satisfactory fit of the measurement model with $\chi^2/df = 2.563$, GFI = 0.942, NFI = 0.959, CFI = 0.975, and RMSEA = 0.057.

- Figure 2 displays the details of the estimating parameters of the model, and Tables 4 and 5 illustrate the findings from testing the hypotheses on direct and indirect influence, as well as total influence, as follows:
- Service quality has a direct positive effect on relationship quality ($\beta = 0.59$, $p < 0.001$), and the findings agree with Hypothesis 1.
- Service quality has a direct positive effect on customer satisfaction ($\beta = 0.46$, $p < 0.001$), and the findings agree with Hypothesis 2.
- Service quality has a direct positive effect on customer loyalty ($\beta = 0.28$, $p < 0.001$), and the findings agree with Hypothesis 3.

Table 3

Measurement Model Results (Confirmatory Factor Analysis)

Research constructs	Research items	Factor loading	t-test	R ²
Service quality	Tangibility	0.434	8.950***	0.20
	Reliability	0.795	17.526***	0.63
	Responsiveness	0.480	10.730***	0.23
	Assurance	0.605	13.384***	0.37
	Empathy	0.847		0.72
Relationship quality	Trust	0.902	19.994***	0.81
	Relationship satisfaction	0.852	20.233***	0.73
	Commitment	0.868		0.75
Customer satisfaction	On time	0.775		0.60
	Courtesy	0.641	14.527***	0.41
	Safety	0.787	22.452***	0.62
	Communication convenience	0.828	19.186***	0.69
	Freight rates	0.876	20.346***	0.77
Customer loyalty	Repurchase intention	0.850		0.72
	Purchase frequency	0.899	24.747***	0.81
	Word of mouth	0.805	21.829***	0.65
	Price insensitivity	0.844	22.110***	0.71



$\chi^2/df = 2.563$, GFI = 0.942, NFI = 0.959, CFI = 0.975, and RMSEA = 0.057
 ***p < 0.001

Figure 2. Results of the structural equation model.

- It also has an indirect positive effect on customer loyalty through customer satisfaction and relationship quality ($\beta = 0.38$), with a combined total effect on customer loyalty of ($\beta = 0.66$).
- Relationship quality has a direct positive effect on customer loyalty ($\beta = 0.36$, $p < 0.001$), and the findings agree with Hypothesis 4. It also has an indirect effect on customer loyalty through customer satisfaction ($\beta = 0.09$), with a combined total effect on customer loyalty of ($\beta = 0.45$).

- Relationship quality has a direct positive effect on customer satisfaction ($\beta = 0.40$, $p < 0.001$), and the findings agree with Hypothesis 5.
- Customer satisfaction has a direct positive effect on customer loyalty ($\beta = 0.25$, $p < 0.001$), and the findings agree with Hypothesis 6.

The results displayed in Figure 2 and Table 4 show how the standardized regression coefficient affects the acceptance of the six hypotheses.

Table 4*Results of the Proposed Structural Equation Model*

Hypothesis	Standardized regression coefficient	t-test	Results
H1: Relat_quality ← Service_quality	0.588***	11.952	Supported
H2: Custom_sat ← Service_quality	0.456***	8.002	Supported
H3: Custom_loyal ← Service_quality	0.278***	4.912	Supported
H4: Custom_loyal ← Relat_quality	0.356***	6.856	Supported
H5: Custom_sat ← Relat_quality	0.394***	7.639	Supported
H6: Custom_loyal ← Custom_sat	0.245***	4.051	Supported

Table 5*Relationship Quality Statistical Analysis and Influence of Latent Variables*

Variables	Relationship quality			Customer satisfaction			Customer loyalty		
	TE	IE	DE	TE	IE	DE	TE	IE	DE
Service quality	0.59	–	0.59	0.69	0.23	0.46	0.66	0.38	0.28
Relationship Quality	–	–	–	0.40	–	0.40	0.45	0.10	0.36
Customer satisfaction	–	–	–	–	–	–	0.25	–	0.25

Table 5 (in which TE is “total effect,” IE is “indirect effect,” and DE is “direct effect”) shows that service quality has a statistically significant direct effect on relationship quality, with the measure of influence being 0.59. The influence of service quality, both directly and indirectly, on customer satisfaction is also statistically significant with a measure of the the direct effect of 0.46 and thethe indirect effect of 0.23. Service quality influences customer loyalty both directly and indirectly, with a statistically significant 0.28 measure of the direct effect and 0.38 of the the indirect effect. Relationship quality has a direct influence on customer satisfaction with a statistically significant measure of the the total effect of 0.40. Relationship quality also influences customer loyalty both directly and indirectly and is statistically significant with a measure of the the direct effect of 0.36 and thethe indirect effect of 0.10. Customer satisfaction has a direct effect on customer loyalty with a statistically significant measure of influence of 0.25.

The findings of the study of service quality indicate that the direct positive effect on relationship quality

($\beta = 0.59$, $p < 0.001$) has statistical significance ($p < 0.001$)—with tangibility, reliability, assurance, responsiveness, and empathy formulating bonds that lead to trust, relationship satisfaction, and commitment between sea freight forwarding service providers and users in Thailand through on-time delivery, courtesy, safety, communication convenience, and freight rates. Furthermore, service quality has a direct and statistically significant ($p < 0.001$) positive effect on customer loyalty as well as an indirect effect through relationship quality and customer satisfaction. These effects may be explained by suggesting that high-quality service through customer repurchase intention, purchase frequency, word of mouth, and price insensitivity— helps formulate customer loyalty. This study should be useful for sea freight forwarders in developing the service aspects of their business. Therefore, the government and private sector should prioritize encouraging organizations to improve and recognize the value of service quality to engender good relationships between businesses, thereby leading to customer satisfaction and ultimately earning the loyalty of customers over time.

Discussion

This study identifies how service quality, relationship quality, and customer satisfaction affect customer loyalty to sea freight forwarders in Thailand. We found that all the hypotheses are supported and consistent with previous research. A new finding is that relationship has an indirect effect on customer loyalty through customer satisfaction. However, service quality has stronger direct effects on customer satisfaction and relationship quality than on customer loyalty. In addition, the results of the regression weights indicate that customer satisfaction, relationship quality, and service quality have rather small effects on customer loyalty. Thus, to create customer loyalty, sea freight forwarders must focus on strengthening service quality, which can lead to stronger effects on customer satisfaction and relationship quality.

Service Quality and Customer Satisfaction

The findings indicated that service quality has a positive effect on customer satisfaction. This implies that organizations can fulfill customer satisfaction through more effective service quality. This finding is consistent with the study of Chen and Lee (2008), which noted, after observing service quality, customer satisfaction, and relationship quality, that the quality of logistics service directly affected loyalty. A study conducted by Farn and Huang (2009) revealed that the level of service quality in the service industry had a direct effect on the retention of customer loyalty.

Service Quality, Customer Satisfaction, and Quality Relationships

The study participants believe that service quality has an indirect positive influence on customer satisfaction through quality relationships. This result finds empirical validation in several previous studies, in particular, those conducted by Caceres and Paparoidamis (2007) that stated that service quality affected relationship quality between business organizations. The intrinsic factors of satisfaction with the relationship, trust, and joint agreement, shared by word of mouth, all work together to create loyalty within an organization. A study by Pepur et al. (2013) indicated that service quality had a tremendous effect on business networks among organizations in

the service sector. The findings suggested that the marketing activities of large networks depend mostly on the size of the organization that could be observed through trust, joint agreement, or determination and satisfaction with the relationship.

Service Quality, Customer Loyalty, and Customer Satisfaction

Respondents shared the view that service quality has an indirect effect on loyalty through customer satisfaction. This result confirms the findings reported by Pollack (2009), who mentioned that good-quality service would yield satisfaction and result in loyalty. Moreover, this finding coincides with the research results of Juga, Juntunen, and Grant (2010), who mentioned that the logistics manager was well aware that the customer perception of customer service quality influenced loyalty through overall satisfaction with the services received.

Relationship Quality, Customer Loyalty, and Customer Satisfaction

Relationship quality has a direct effect on loyalty as well as an indirect effect on loyalty through customer satisfaction. This result is consistent with the findings yielded by the study of Allameh, Pool, Far, and Jamshidi (2012), who mentioned that the best approach for effecting satisfaction and influencing loyalty was to develop a strong bond. In addition, Huang (2012) stated that high-quality relationships could give rise to customer loyalty by increasing customer satisfaction and thereby affecting the customer's intention to purchase products. This finding also coincides with the research of Kong (2008), who mentioned that customer satisfaction could be increased by focusing on quality service. Therefore, customer loyalty and relationship quality could be escalated by increasing customer satisfaction. Service quality, relationship quality, and customer satisfaction are crucial elements for an organization to maintain its successful operation. They help sea freight forwarders in Thailand flourish and continue to make profits in the long term by providing them with an incentive to provide good service and high-quality relationships through bonding, which in turn help them retain customer loyalty.

The findings of this study are significant for academic researchers and practitioners in sea freight forwarders. However, as any study of this type, this research is subject to some limitations that need to be

borne in mind when interpreting its findings. On the methodological side, the study participants included three specific industries: computer and electronics components, automotive and original equipment, and agricultural products. Despite their diversity, the respondents' characteristics were combined in the subsequent analyses. Thus,, the results of this study were ensured to benefit in these industries that will not be useful for other industries completely.

This study also provides implications for individual aspects and academic communities of sea freight forwarders business. The results reported here provide valuable information that enables the Thai sea freight industry participants to improve their customer service and service quality. The model developed and verified as a part of this study presented a viable strategy for improving sea freight forwarders performance. The key factors included service quality, customer satisfaction, relationship quality, and customer loyalty. The results of this study reveal that service quality affects both customer satisfaction and relationship quality, which ultimately affect customer loyalty. This information thus contributes to the extant knowledge pertaining to the optimal supply chain management strategies, as it offers guidelines for implementing changes and improvements in the service quality in order to achieve effective sea freight forwarders in Thailand. We found the results that all these elements affect the formation of customer loyalty. Therefore, the government should aim for the total balance and sustainability of the economy by focusing on restructuring the manufacturing sector and supporting businesses in developing world-class standard quality while incorporating service excellence. It is expected that such restructuring will help sea freight forwarders in Thailand adapt and prepare for future competition and afford them the ability to plan a strategy and establish a direction, a vision, a mission,, and policies.

The final model that was constructed and validated in this study can help improve the service quality of sea freight forwarders in industries, including computer and electronics components, automotive and original equipment, and agricultural products. Future research

could opadopt this framework in other industries, as it might yield different outcomes with respect to its ability to enhance sea freight forwarders.

Declaration of ownership

This report is our original work.

Conflict of interest

None.

Ethical clearance

The study was approved by the institution.

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