

Role of Relationship in the Mediation of Satisfaction and Loyalty in Logistics Services Context

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— *Review of* —
**Integrative
Business &
Economics**
— *Research* —

ABSTRACT

This study investigates the impact of antecedents of satisfaction namely service quality, pricing and relationship on the development of loyalty in logistics partnership behaviour existing between the logistics service providers and users in a business-to-business relationship environment in developing economies with specific reference to India. In order to identify gaps in knowledge and give future research direction in the logistics outsourcing field, this article also makes an attempt to contribute systematic understanding into the connection and correlations among the variables used in the study to the body of existing literature. The author runs several research hypotheses tests by using a data set of 414 responses collected from decision makers, managers and executives working across different industries from India. The author uses structural equation modelling to estimate the reliability, validity and hypothesis test of the measurement as well as structural model of the constructs. The findings of the study disclose that service quality has highest direct effect on relationship satisfaction with the customers and which in turn has the higher direct effect on customer loyalty formation. This research suggests how the impact of relationship and customer satisfaction can be improved by adopting better service quality. Though price seems to be the key qualifying factor in developing economy like India, this study demonstrated that high service quality mediated through a better customer satisfaction and customer relationship management results in long term loyalty and retention of customers

Keywords: Customer loyalty, Customer satisfaction, Service quality, Third party logistics, Relational satisfaction, Price satisfaction.

Received 27 July 2022 | Revised 2 November 2022 | Accepted 20 December 2022.

1. INTRODUCTION

Today's global competition, economic cycle patterns, and adversities like Covid-19 pandemic are making it very tough for the businesses to deliver to their customers' satisfaction level (Amelia *et al.*, 2022). Customer satisfaction is a relative term, it can simply mean meeting customer expectations in terms of various attributes like delivering right product at the right time, right place, right price, right quality in right assortment. There might be several other expectations which can't be addressed adequately in this study. But the primary attributes of satisfaction mentioned just before are fulfilled to a great extent by having an efficient logistics system in place, by a company. Businesses needed new ways to reduce risks, lower overall costs, shorten production lead times, and

improve customer responsiveness as competition became more global. These ever-growing logistical challenges can be better managed by outsourcing these activities to the experts in the field. Third-party logistics businesses are the most cost-effective solution in these situations. As a result, businesses began to outsource their logistical functions to third-party logistics firms (3PL). This included locating the most cost-effective materials and components, as well as managing the procedures for delivering the finished products and services to market. Companies were able to concentrate on their core activities while their logistics partner took care of the logistics. With more flexibility, lower cost structures, and higher customer satisfaction, enterprises that outsourced were able to go ahead of their competition. The reason for this is that businesses are increasingly relying on 3PL (third-party logistics) to meet their logistics demands. Shippers believe that 3PLs offer new and creative methods to enhance logistics performance, and that they are nimble and adaptable enough to meet future company requirements and problems (Langley Jr *et al.*, 2022). According to the 2021 Annual Third-Party Logistics report, shippers and third-party logistics providers continue to benefit from their relationships. This indicates that both users and providers of logistics services are increasingly in need of a deeper understanding of their relationship. “The logistics sector will be carried forward by relationships” (Delaney, V., 2000).

Hence, it can be drawn from the above discussions that having healthy logistics relationship between the service provider and service receiver is the key to the achievement of higher service quality, lower price, higher overall customer satisfaction level which may finally lead to repurchases, retention and loyalty. Several studies have shown that retaining clients is more lucrative than acquiring new ones (Hogan *et al.*, 2016; Lee-Kelley *et al.*, 2003; Ou, 2021). According to a report, a 5% increase in client retention can result in a 25 percent to 85 percent boost in profitability (Frederick, F. and Sasser, Jr., 1990). Customer satisfaction has been studied by a number of writers in order to identify the antecedents of loyalty (Jones, O. and Sasser, W., 1995). Furthermore, customer satisfaction is thought to be a resultant of a number of factors, including service quality, pricing satisfaction, and relationship satisfaction, which have all been considered in this study.

When looking at the existing studies, the majority of them were conducted in industrialized nations such as Germany, the United Kingdom, Australia, the United States, and Japan. In the literature, there is virtually little research on emerging nations like India. As a result, this research is being carried out from Pune, India, in order to contribute to the literature by taking into account the Indian context of logistics outsourcing relationships.

Therefore, the purpose of this research is to establish links and relationships (Fig.1) between the attributes of service quality, relationship, pricing, satisfactions and loyalty in logistics outsourcing relationships – particularly in terms of improving relationship quality and customer loyalty in a logistics outsourcing relationship and to put this theoretical foundation to the test empirically.

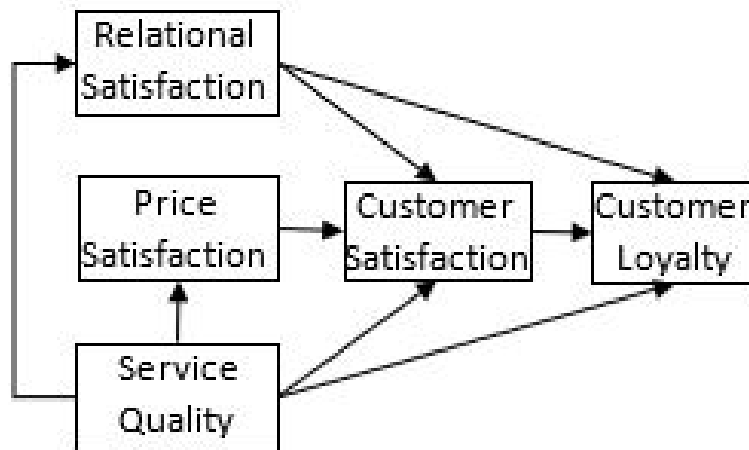


Figure 1: Conceptual Model

2. LITERATURE REVIEW AND RESEARCH HYPOTHESES

This study aims to contribute to current knowledge and provide more clarity on the correlation between factors of service quality, satisfaction and loyalty by investigating connections between LSPs (Logistics Service Providers) and their customers.

Customer Loyalty: A buyer's intentions to purchase the same services (retention) and new services (expansion) from the current provider in the future, as well as the buyer's engagement in promoting this provider to others, is referred to as customer loyalty (referral). Although loyalty is a major relationship effect of satisfaction, a growing number of studies has looked at the factors that influence satisfaction in the context of logistics services. Customer loyalty is created via repurchases (repeat and additional purchases of the same or different products or services) and recommendations (Meyer and Oevermann, 1995). Loyalty is defined as "a buyer's total attachment or strong commitment to a product, service, brand, or organisation." (Oliver, 1999)

2.1 Service Quality

The quality of service provided by an LSP has been linked to customer satisfaction in logistics. According to Stank et al, logistics service quality is comprised of two major dimensions: operational performance and relational performance (Stank *et al.*, 1999). Focusing on measuring and controlling service quality has been a major study area in response to the rising relevance of the service sector. In today's corporate environment, delivering high-quality service is a critical component of a successful marketing plan. As a result, service quality has become a major concern in the service business (Pont and McQuilken, 2002). Customer loyalty requires high-quality service. Many researchers have studied the behavioral effects of service quality, how to measure and manage service quality, and how service quality affects customer satisfaction and loyalty (Bitner, 1990; Bolton and Drew, 1991; Boulding *et al.*, 1993; Parasuraman *et al.*, 1988; Zeithaml *et al.*, 1996). Thus, the following hypotheses are proposed:

H₁ - Service quality directly and positively influences customers' loyalty towards logistics service provider.

H₂ - Service quality directly and positively influences customers' satisfaction towards logistics service provider.

Service quality has a direct positive impact on both pricing and relationship satisfaction. The disconfirmation paradigm states that satisfaction is attained when initial service expectations are positively confirmed. If the price is lower than expected or the service quality is better, price satisfaction might be higher. As a result, increased service quality should lead to greater pricing satisfaction, as stated in the following hypothesis:

H₃ - Service quality directly and positively influences customers' satisfaction towards logistics service providers' price.

Even while conflicts are unavoidable in every relationship (Anderson and Narus, 1984), a high level of service quality supplied by an LSP is likely to lessen friction, resulting in a more satisfying relationship for the customer. Wallenburg (Wallenburg (2004) demonstrated that this relationship is especially strong and substantial, leading to the following hypothesis:

H₄ - Service quality positively influences customers' satisfaction towards the relationship with the logistics service provider.

2.2 Relationship satisfaction

The establishment of customer relationships is one of the most important aspects of a logistics company to logistics outsourcing service relationship. The intricacy of the services and the long-term nature of business ties in the supply chain necessitate that successful and satisfied logistical relationships are of the utmost significance. Successful business relationships, according to relationship marketing concepts, improve customer satisfaction and consequently company performance. relationship yields both utilities and costs, according to social exchange theory (SET), which was developed principally by numerous researchers. As long as the cost-utility ratio is favorable, parties will prefer to sustain and strengthen a relationship (Lambe *et al.*, 2001). In contrast to pure economic theories, SET considers both economic and social results, emphasizing the need of considering both social and economic elements when assessing relationships. While the specific composition of utilities and costs differs from person to person, the actual cost-utility-ratio, or the benefit achieved in the present relationship, is compared to the projected benefit from the current relationship, or the comparative level. The more the realized benefits exceed the comparison level, the higher the satisfaction with the relationship, and the more likely are parties to maintain and expand it (Thibaut and Kelley, 1959). Thus, the higher the realized satisfaction in relationship, lead to the higher the customer satisfaction and loyalty.

H₅ - Relationship satisfaction positively influences customers' loyalty towards logistics service provider.

H₆ - Relationship satisfaction positively influences customers' satisfaction towards logistics service provider.

2.3 Price Satisfaction

Discount competition is pressing most industries, including retail food chains, internet retailers, and others, to cut prices in order to compete and retain or even persuade customers. As a result, increasing expenses, such as logistics costs, are practically impossible to pass on to end customers due to intense price rivalry (Klumpp and Jasper, 2008).

However, whether this viewpoint is suitable in all situations is debatable. In fact, according to Varki(Varki and Colgate, 2001), pricing influences consumers' perceptions of value, which in turn influences satisfaction. Furthermore, empirical research have

shown the impact of pricing in determining consumer satisfaction (Lapierre *et al.*, 1999; Voss *et al.*, 1998).

According to Wallenburg (Wallenburg, 2004), price may impact satisfaction in a variety of ways. Often, logistics outsourcing choices are not decided by a single individual; decision memoranda are prepared, and the ultimate decision is made by a higher-ranking management. In this instance, the subordinate must defend its suggestion, which may result in a greater focus on cost or pricing considerations.

In most cases, the most essential factors in business decision-making are monetary measurements. Because service performance is more difficult to define than cost or price, and hence more difficult to compare to market alternatives, pricing is a major variable in operation.

Additional service performance may not always result in increased utility for the consumer. As a result, the higher the degree of satisfaction, the cheaper the price for a given level of service performance.

Dissatisfaction may occur in long-term contractual agreements, such as those between LSPs and their clients, even if the contracted service's pricing was previously deemed appropriate. This might happen when rival LSPs provide equivalent services at cheaper costs, triggering dissatisfaction that is caused by the price rather than the quality of the service.

In the business service setting, pricing is likely to have a significant impact on the development of satisfaction. Price satisfaction in this study is defined as the affective and cognitive evaluation of all experiences made by a customer with the prices offered by an LSP for the contracted logistical services, in accordance with the definition of service quality given above and the conceptualization provided by Wallenburg (Wallenburg, 2004). The higher the degree of pricing satisfaction, the higher the level of customer satisfaction will be.

H₇ - Satisfaction on price positively influences customers' satisfaction towards logistics service provider.

2.4 Customer Satisfaction:

A person's sentiments of joy or disappointment as a consequence of evaluating performance of the product to his or her expectations is referred to as satisfaction. Customer satisfaction may be thought of in two ways: transaction-specific and cumulative. Transaction-specific satisfaction is linked to an assessment of a single service encounter, while cumulative satisfaction is linked to an overall assessment of the service provider. According to Parasuraman *et al.* (Parasuraman *et al.*, 1994), satisfaction is a function of transactions. Individual evaluations are integrated to generate a "pleasurable fulfilment" of needs assessment in cumulative satisfaction (Oliver, 1997). Overall satisfaction is calculated by adding together all prior transaction-specific assessments and is added after each transaction (Jones and Suh, 2000). Instead of a transaction-specific satisfaction evaluation, the satisfaction concept in loyalty research is conceived as cumulative satisfaction (Harris and Goode, 2004). Overall pleasure is more consistent than transaction-specific happiness, according to Parasuraman *et al.* (Parasuraman *et al.*, 1994). This study relies on cumulative satisfaction rather than transaction-specific pleasure, as shown by the literature review.

To better comprehend the varied aspects of satisfaction, researchers have studied a variety of satisfaction concepts. It is widely accepted that satisfaction is a type of "post-choice evaluative opinion" (Westbrook and Oliver, 1991). While studying the

development of satisfaction, many scholars adhere to the disconfirmation paradigm (Michael K. Brady *et al.*, 2002). “A customer is pleased when perceived performance surpasses expectations (a positive disconfirmation).” The customer, on the other hand, is unhappy if perceived performance is below expectations (a negative disconfirmation) (Spreng *et al.*, 1996). Numerous academics, especially in marketing research, have investigated the impact of satisfaction on customer loyalty (Bolton *et al.*, 2000; Cronin *et al.*, 2000; Grønholdt *et al.*, 2000; De Wulf *et al.*, 2001).

H₈ - Customer satisfaction positively influences customers’ loyalty towards logistics service provider.

Fig.2 summarizes the hypotheses mentioned above.

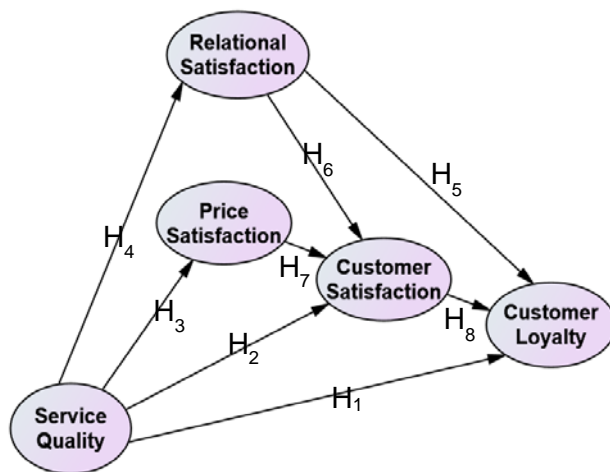


Fig.2: Research Hypotheses

3. RESEARCH METHODOLOGY

3.1 Sample Design:

Buyers of logistics services were taken into consideration in the sample design. As a result, logistics managers from a variety of manufacturing and trading businesses were chosen and surveyed on the nature of their relationships with their selected LSPs. Data was acquired from members of the Confederation of Indian Industry who worked in logistics (CII). The sample included CII members who worked in a variety of businesses in India and had prior experience with logistics outsourcing. A web-based survey method was employed in accordance with Griffis *et al.* recommendations (Griffis *et al.*, 2003). Members of the sample were contacted through e-mail and requested to take the survey online. About 430 of the 1,550 questionnaires distributed by e-mail were returned completed, resulting in 28% response rate. Due to a large number of missing data or clear random responses, 16 cases had to be eliminated from studies, leaving 414 viable instances and a useable response rate of 27%. The bulk of respondents (78.5 percent) were Logistics Managers in senior and mid-level roles, 20. percent were lower and mid-level Logistics Employees, and 1.5% were classed as ‘Other.’ According to the demographics, the sample is fairly balanced in terms of industry affiliation, responder competency, and average working experience of 8 years, with a minimum of 3 years in the present position. Apart from a few respondents working in same company, 398 organisations were identified where the respondents were working.

The organisations were made up of different sectors of the industry comprising pharmaceuticals – 18%, food processing- 11, iron and steel – 8, autocomp and ancillaries – 9, traders/distributor – 20, retailers – 7, consumer durables – 10, Oil/petroleum – 4, chemical – 5, others – 8. After that, non-response bias was assessed using Armstrong and Overton's technique of comparing early and late respondent responses (Armstrong and Overton, 1977). The data set was divided into four equal sections based on the response date, and T-tests were used to compare early (first quarter) and late (fourth quarter) respondents. No evidence of non-response bias was observed.

Logistics outsourcing accounts for 35% of total logistics costs on average. The lead LSPs contributed 40 % to the total. This demonstrates the importance of connections with these LSPs for respondents' overall logistics performance, as well as the reality that logistics outsourcing has become a big and vital element of any firm today.

3.2 Scales of Measurement

All of the measuring items were adopted from previous research studies that had been thoroughly evaluated and validated. Each construct's specific measurement items and their sources are listed in Table I. All of the model's components were assessed using multiple-item measures. The recommendation is to employ well-validated metrics from past studies. Multi-item 7-point Likert scales were employed for all variables, and the face validity of the measuring items was determined via pre-test interviews with 15 logistics academicians and 15 logistics practitioners. Table I shows the loyalty scale, which is based on studies by Homburg et al. (Homburg *et al.*, 2003) and Wallenburg (Wallenburg, 2004). To capture consumer loyalty (CL1-5 in Table I), a total of five metrics were used. The total assessments of the corresponding three performance dimensions: price satisfaction, service quality, and relationship satisfaction, are reflected in the measurement of satisfaction. Price and relational satisfaction (PS1-3 and RS1-3 in Table I) were measured using an adapted version of the scale employed by Wallenberg while service quality (SQ1-3 in Table I) is measured using Dabholkar (Dabholkar *et al.*, 2000) and modified version of the scale developed by Wallenberg (Wallenburg, 2004). Measurement scales for customer satisfaction was adapted from Duc Nha Le (Le *et al.*, 2020).

Table I. Measurement Scale

	Customer Loyalty	Source
CL1	In the future, we will continue to use this logistics service provider.	
CL2	We want to renew our contracts with this logistics service provider again.	
CL3	The logistics service provider will account for a larger portion of our logistics business in the future.	(Homburg <i>et al.</i> , 2003;
CL4	This logistics service provider will be used more frequently in the future than it is today.	Wallenburg, 2004)
CL5	I/we frequently refer this logistics service provider to people outside of our firm.	
	Relational Satisfaction	
RS1	We are really happy with how we engage with this logistics service provider.	
RS2	When working with this logistics service provider, disagreements are always resolved amicably.	(Wallenburg, 2004)
RS3	This logistics service provider and I have a great working connection.	

Price Content		
PC1	This logistics service provider's pricing is relatively competitive when compared to other logistics service providers.	
PC2	The logistics service provider has an outstanding price-to-performance ratio.	(Wallenburg, 2004)
PC3	This logistics service provider's prices are quite reasonable as compared to performing such activities ourselves.	
Service Quality		
SQ1	This logistics service provider provides outstanding services in general.	(Dabholkar <i>et al.</i> , 2000;
SQ2	This logistics service provider provides excellent service performance.	Wallenburg,
SQ3	This logistics service provider provides extremely good service quality.	2004)
Customer Satisfaction		
CS1	We are pleased to conduct business with this express and logistics service provider.	
CS2	It was a good decision for us to do business with this logistics service provider	(Le <i>et al.</i> , 2020)
CS3	We are satisfied with the process and methods that this logistics company organized and managed the cargo	

4. FINDINGS

4.1 Measures and Reliability Test

The survey instrument was put to the test to see whether it was reliable. Table II shows the summary statistics (means and standard deviations), Cronbach alpha values, and factor loadings values. The most prevalent test for scale reliability reported in the literature is internal consistency, as shown by Cronbach's alpha. For the scales, Cronbach's alpha values of 0.7 or above are regarded acceptable (Number and Banadough, 1978). For each of the five constructs, Cronbach's alpha was assessed. Cronbach alpha coefficients for all constructs were greater than the suggested level of 0.7. Table II shows that they range from 0.79 to 0.82. This suggested that all of the measurements utilized in this study have reliability.

Table II. Means, standard deviations, and reliability statistics

	Mean	Std. Deviation	Cronbach's α	Factor Loadings
Service Quality				
SQ1	5.19	1.32	0.82	0.64
SQ2	5.15	1.39		0.84
SQ3	5.14	1.37		0.89
Price Content				
PS1	4.97	1.20	0.79	0.81
PS2	5.12	1.17		0.84
PS3	5.12	1.19		0.82
Relational Satisfaction				
RS1	4.95	1.31	0.81	0.79
RS2	4.95	1.39		0.73

RS3	5.00	1.39		0.67
Customer Satisfaction				
CS1	4.98	1.32		0.77
CS2	5.07	1.26	0.82	0.84
CS3	5.11	1.33		0.80
Customer Loyalty				
CL1	4.99	1.32		0.72
CL2	4.92	1.30		0.64
CL3	4.93	1.31	0.82	0.77
CL4	4.89	1.31		0.60
CL5	5.01	1.37		0.63

Table III. Goodness-of-fit statistics

	Measurement Model	Structural Model
CFI	0.971	0.954
GFI	0.948	0.934
AGFI	0.925	0.909
TLI	0.963	0.944
RMSEA	0.045	0.055
χ^2	194.300	251.879
p	0.000	0.000
df	106	111
χ^2/df	1.833	2.269

Table IV. Result of measurement model

	Std Factor Loading	Std Error	CR	R ²
SQ1	0.73	0.07	10.35	0.61
SQ2	0.80	0.06	11.11	0.56
SQ3	0.81	0.07	9.35	0.66
PS1	0.75	0.07	10.24	0.59
PS2	0.79	0.08	10.51	0.58
PS3	0.70	0.08	10.56	0.57
RS1	0.77	0.07	11.28	0.54
RS2	0.76	0.07	9.64	0.63
RS3	0.76	0.07	9.18	0.66
CS1	0.78	0.06	9.70	0.57
CS2	0.75	0.06	8.48	0.63
CS3	0.81	0.07	10.97	0.50
CL1	0.74	0.07	11.47	0.55
CL2	0.72	0.08	11.62	0.52
CL3	0.74	0.06	12.48	0.54
CL4	0.67	0.07	10.95	0.45
CL5	0.74	0.07	11.73	0.55

4.2 Measurement Model Assessment

IBM’s SPSS 26 and AMOS 22.0 was used to test the measurement and structural models using structural equation modelling (SEM). Before assessing the structural model, first the validity of the measurement models was determined using confirmatory factor analysis (CFA). CFA was recommended by Anderson and Gerbing as a more rigorous method to model testing than Cronbach alpha, exploratory factor analysis, or item-total correlation (Anderson and Gerbing, 1988). SEM is a multivariate statistical analysis method that uses correlation between observable variables to explain relationships between latent variables. The SEM method is broken down into two stages: measurement model and structural model. Whereas the ability of observed variables to reflect latent variables is measured by the measurement model, the structural model is used to describe the relationship between latent variables. Observed variables are indicators that are directly measured and are used to measure latent variables. Latent variables are variables that are inferred from observable variables rather than being explicitly observed (Bollen, 1989). Confirmatory factor analysis (CFA) is a technique for evaluating measurement models, and the findings indicate whether each observed variable is a good representation of the latent variable to which it belongs. CFA also uses goodness-of-fit statistics to demonstrate the validity of the measurement model as a whole. Before looking for an association between latent variables, it's vital to use CFA to ensure that the measurement model's estimated values are supported consistent within the structural model that will be evaluated, as well as to ensure that the measurement model is acceptable (Kline, 2005).

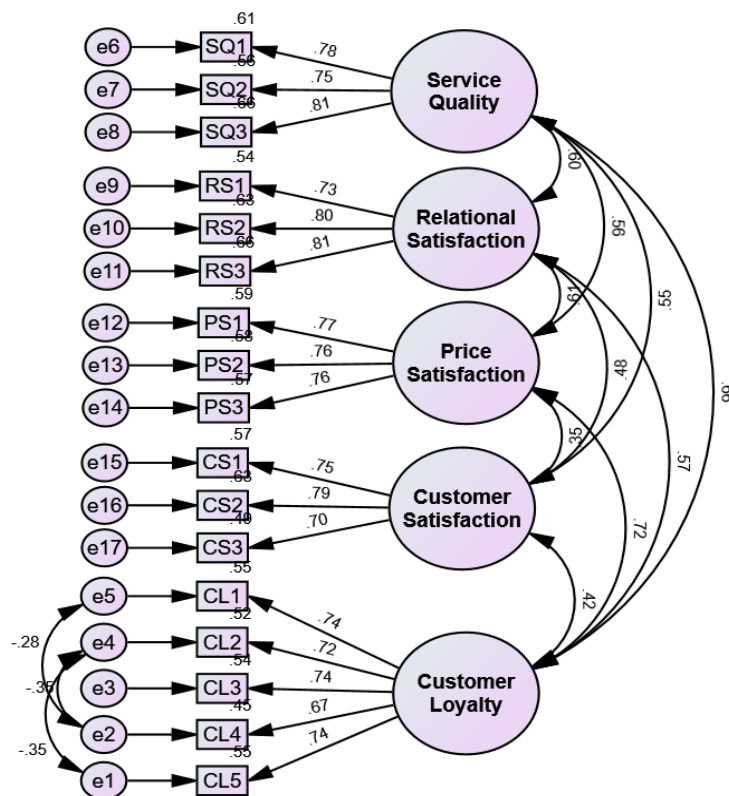


Fig.3: Measurement Model Path

Fig.3 present the path diagram of the measurement model. It consists of 5 latent variables and 17 observed variables loaded onto these latent variables. The results of the

CFA for the five latent variables included in the structural model are reported in Table III. The chi-square (χ^2) statistic is a commonly used measure to assess how well the model covariance matrix matches the sample covariance matrix (Chou and Bentler, 1995). The chi-square value for our measurement model is 194.300 ($p < .001$). The normed chi-square (χ^2/df) is 1.833 and thus, good and acceptable (Bollen, 1989).

The comparative fit index (CFI), goodness-of-fit index (GFI), adjusted GFI (AGFI), Tucker-Lewis index (TLI), and root mean squared error of approximation (RMSEA) are some other important fit criteria calculated for the model fitness (Bagozzi and Yi, 1988; Browne and Cudeck, 1993; Joreskog and Sorbom, 1982; Stank *et al.*, 2003; Zhang *et al.*, 2003). The first four measurements should be at least 0.90, and the RMSEA should be less than 0.08. Table IV, goodness-of-fit statistics of the measurement model produced acceptable values. Goodness of fit index (GFI) and Comparative fit index (CFI) are respectively 0.948 and 0.971. AGFI corrected value of GFI according to complexity of the model is 0.925.

Convergent validity is supported, according to Anderson *et al.*, when indicators load substantially on their specified latent variables (Anderson *et al.*, 1987). The model shows convergent validity since the lowest factor loading observed in the model is 0.67 for CL4 (Table III). The Fornell and Larcker (Fornell and Larcker, 1981) criteria was also used to assess discriminant validity, which refers to the degree to which measures of different elements are distinct (Bagozzi, 1980). Table III shows that the values of square root of the AVE for each latent variable is greater than the value of highest correlation with any other latent variables, establishing discriminant validity.

Table V. Measurement Model Discriminant Validity

	CR	AVE	PS	CL	SQ	RS	CS
PS	0.795	0.564	0.751*				
CL	0.844	0.521	0.417	0.721*			
SQ	0.823	0.607	0.482	0.572	0.779*		
RS	0.806	0.580	0.354	0.719	0.605	0.762*	
CS	0.822	0.607	0.551	0.656	0.605	0.560	0.779*
Price Satisfaction : PS				CR : Composite Reliability			
Customer Loyalty : CL				AVE : Average Variance Extracted			
Service Quality : SQ				* : Square root of AVE			
Relational Satisfaction : RS							
Customer Satisfaction : CS							

4.3 Structural Model

After the measurement model produces appropriate values, structural model analysis that hypotheses between latent variables are tested. The structural model is presented in **Figure 4**. The structural model ($\chi^2 = 251.879$, $df = 111$) produces very good values with regards to goodness-of-fit statistics ($\chi^2/df = 2.269$; RMSEA = 0.055; CFI = 0.954; GFI = 0.934; AGFI = 0.909; TLI = 0.944). the fit statistics for the entire model are comparable to those given for the measurement model. All five fit indices surpass the stated threshold levels.

Table VI. Hypotheses Test Results

Hypothesis	Hypothesized path	Path coefficient	Critical Ratio	p	Results
H ₁	Service Quality → Customer Loyalty	0.09	1.43	0.15	Not supported
H ₂	Service Quality → Customer Satisfaction	0.30	3.65	***	Supported
H ₃	Service Quality → Price Satisfaction	0.46	7.70	***	Supported
H ₄	Service Quality → Relational Satisfaction	0.64	9.55	***	Supported
H ₅	Relational Satisfaction → Customer Loyalty	0.47	7.04	***	Supported
H ₆	Relational Satisfaction → Customer Satisfaction	0.28	4.00	***	Supported
H ₇	Price Satisfaction → Customer Satisfaction	0.36	5.16	***	Supported
H ₈	Customer Satisfaction → Customer Loyalty	0.31	5.12	***	Supported

Figure 2 shows the hypotheses test results for the base model. The relationships between latent variables are tested, and investigated. Out of the first four hypotheses (H₁, H₂, H₃ & H₄) of service quality, the path H₁ of service quality – customer loyalty (estimate = 0.09, C.R. < 1.96) is found insignificant. Thus, hypothesis H₁ is not supported. The remaining four hypotheses paths, H₅ Relationship satisfaction → customers’ loyalty, H₆ Relationship satisfaction → customers’ satisfaction, H₇ price Satisfaction → customers’ satisfaction, H₈ Customer satisfaction → customers’ loyalty were all found supported. Though reviews on some articles have evidenced the positive impact of service quality on customer loyalty. This study is showing insignificant direct effect (0.098) of service quality on loyalty. But high indirect effect of 0.516 is observed in the estimation. The reason behind this can be attributed to the multiple mediated effects of service quality on loyalty through relational satisfaction, price satisfaction and customer satisfaction. The

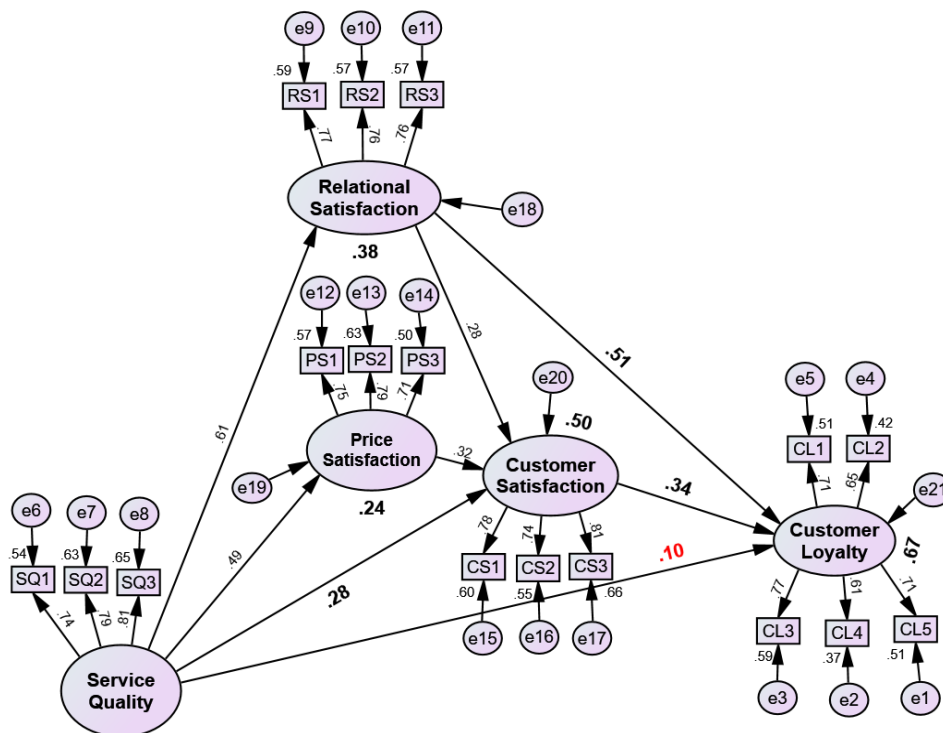


Fig.4: The structural model

highest direct effect of service quality is exerted on customer satisfaction with R² value

of 50%, as compared to direct effect on relationship satisfaction and price satisfaction of 38% and 24%.

When the effects of the four dimensions on loyalty are combined, they produce an R-square value of 67 %, indicating that about 2/3 of the variance in the measurement of customer loyalty can be attributed to these three constructs. The standardized indirect effect of price on loyalty was low 0.108 but higher than the indirect effect of relationship 0.093 on loyalty mediated by customer satisfaction. The indirect effect of service quality on customer satisfaction was found significant at 0.328 mediated combinedly through relationship and price satisfaction.

4.4 Discussion

This paper investigates the logistics service outsourcing relationships between organisations belonging to varied industry and their logistics service providers in India, and tests the measurement and structural models where service quality, price satisfaction and relational satisfaction are positive precursors to customer satisfaction; service quality, relational satisfaction and customer satisfaction a positive precursor to loyalty. both the measurement and structural models were found to have acceptable fits, validity, and reliability.

The current study's findings are operationalized around the concept of service quality as a primary predictor of loyalty development in logistics outsourcing relationships. Stank et al., on the other hand, operationalized the relevance of logistics service quality in a slightly different way, using order qualifiers rather than "differentiators in the eyes of customers" in their study (Stank *et al.*, 2003). The study shows that service quality with direct and mediated effects of price and relationship satisfaction is the key driver of customer loyalty. Furthermore, it is observed that it has a significant impact on both the economic (i.e. pricing) and social (i.e. relationship) elements of service relationships. The study also posits that, providing high operational performance may make good relationships easier to achieve. Friction may make it more difficult to be completely satisfied with the social components of the buyer-seller relationship in the absence of outstanding operations. The study also affirms that service quality has highest direct effect on relationship satisfaction with the customers and which in turn has the higher direct effect on customer loyalty. This ascertains that relationship satisfaction is the strongest resultant effect of the service quality and the strongest influencer of customer loyalty. Both of these findings are consistent with the findings of Stank et al., on LSP performance (Stank *et al.*, 2003).

While price and accompanying expenses are important considerations when selecting an LSP in a developing country like India, they seem to be less significant in the long run (C. John Langley Jr. *et al.*, 2007). Having a strong customer relationship matters the most in logistics and supply chain relationship as it helps in building competitive advantage across the supply chain and in achieving long term sustainability. In conclusion, the basic model lends some support to the use of SET to investigate customer perceptions of logistical service provision and customer loyalty to key service providers.

5. IMPLICATIONS FOR MANAGEMENT

As third-party logistics firms seek to differentiate themselves in the industry, senior executives envisage a greater emphasis on customer relationship management efforts (LIEB, 2008). The current study's findings suggest that LSPs should pay special

attention to service quality and relational satisfaction in this setting, as both were proven to be key predictors of customer loyalty. In the meantime, customer loyalty was unaffected by price satisfaction. The tangible aspects of logistics service provision (e.g., throughput times, picking accuracy, on-time deliveries) as well as the social aspects (e.g., interaction, cooperation) are the key drivers of customer retention, expansion, and referral within ongoing logistics outsourcing relationships. In this context, the current study agrees with Stank et al., that price is a less significant predictor of loyalty (Stank et al., 2003). Though for winning contracts, competitive pricing is highly adopted tactical tool by managers in highly price sensitive market like India, this study demonstrated that high service quality mediated through a better customer satisfaction and customer relationship management results in long term loyalty and retention of customers. Therefore, it could be noted that competitive pricing is an order-qualifying criterion, whereas order-winning factors include service quality and relationship satisfaction.

6. LIMITATIONS AND FUTURE RESEARCH

Despite the study's outcomes, there are some research limitations. Firstly, the sample in this research is made up of organizations that were picked at random, regardless of their size or revenue. This may reduce the potential of results to be generalized since the sample may not be an exact and consistent representative of all types of businesses; small, medium, and large. Another drawback of the research is that information on all of the factors was mainly given by one person, primarily from a managerial position at the respondent organization. Another disadvantage is that the model only includes a few loyalty factors; additional critical dimensions may be identified. The research also examines the relationship between firms in certain industrial sectors and their logistics service providers, albeit not all B2B industries were explored. The validity of the results should be examined in future study via investigations in different industries and countries. Other relationship dimensions, such as knowledge power, autonomy, conflict, and adoption, should be included in the research's model since relationship dimension was determined to have the greatest influence in the study. Their impact on satisfaction and loyalty should be examined. Future research should focus on relationships that have an equal proportion of low, medium, and large volume business. Furthermore, logistics services relations that are on a short-term, transactional basis and have a limited scope are likely been overlooked in our study. According to transaction cost theory, these transactional services are usually less detailed, unpredictable, and dangerous, and demand less collaboration. As a consequence, future research should look at these services as well, since the relationship between satisfaction and loyalty might differ depending on the transactional and relational contexts.

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