

Customer Loyalty and Logistics Service Performance in Maritime Transport : A Literature Review and Conceptual Model

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Abstract : To achieve a differential advantage over competitors and protect their long-term interest, shipping lines have striven to find ways to maintain an ongoing relationship with shippers which can be achieved by attaining their loyalty. The benefits of loyal shippers are potentially huge in that they generate long-term revenue streams as well as provide cost savings as compared with attracting new shippers. Logistics service provided by shipping lines is identified as one of the effective tools for building customer loyalty. However, in a review of the literature none of the studies examine how logistics service creates customer loyalty, particularly between shipping lines and shippers. Consequently, the overarching purpose of this paper is to extend knowledge on logistics service performance and its relationship with customer loyalty in the unique context of maritime transport by proposing a new conceptual model based on an extensive literature review. The major contribution is to offer a new insight into the complex relationships between those 'soft' concepts in the context of maritime transport.

Key words : customer loyalty, logistics service performance, maritime transport, conceptual model, literature review, relationship quality, switching barriers

1. Introduction

Due to the recent intensified competition, firms have changed their strategies from focusing on acquiring new customers towards securing long-term relationships with existing customers and improving their loyalty. Customer loyalty has been increasingly identified as a way to achieve long-term success since attracting new customers and doing business with them is significantly more expensive and time-consuming and takes much effort. A multitude of literature has been conducted on customer loyalty since it can be used to segment markets and also anticipate financial performance. Logistics service is revealed as one of the effective tools for creating closer and enduring relationships with customers and ultimately gaining and maintaining their loyalty.

From a maritime transport perspective, as shipping lines participating in international logistics supply chains have confronted various management challenges related to not only operations but also customer relationships, strong linkages based on shippers' loyalty are emphasised. In addition, cost-efficient and effective logistics service is of major importance for shipping lines to differentiate

themselves as well as satisfy their shippers. While plenty of studies have concentrated on the logistics service performance of shipping lines with a view to selecting and measuring optimal carriers, few studies have attempted to address how logistics service performance can be related to shipper loyalty for better understanding of shipper's demand.

Therefore, the primary objective of this paper is to develop a new conceptual model linking logistics service performance and customer loyalty in maritime transport by reviewing the relevant literature on marketing, logistics and supply chains as well as maritime transport. Although this paper does not show empirical results by testing model, it contributes to the body of knowledge in maritime transport by building theory which offers suggestions for future research. Theory-building is significant due to the fact that it provides an analysis framework, promotes the efficiency of field development and offers clear explanations for the pragmatic world (Wacker 1998). Wacker (1998) also emphasised that for every stage of theory-building, an extensive literature review is required because it offers the accepted definitions, the identified relationships, specific predictions of other theories and can clarify the domain of

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research.

Following this introductory section, the evolution of the carrier–shipper relationship in maritime transport is investigated first. This is followed by the introduction of customer loyalty concept. Studies on logistics service performance in maritime transport are also examined to identify critical logistics service attributes. Finally, by synthesising the previous discussion, a conceptual model linking logistics service performance and customer loyalty, considering relationship quality and switching barrier, in maritime transport is operationalised.

2. The carrier–shipper relationship in maritime transport and customer loyalty

2.1 Empirical studies on container shipping line – shipper relationship management

Over the past decades, with globalisation and the liberalisation of markets, world seaborne trade has increased sharply and the pattern of trade has become increasingly complex (Marlow and Nair 2008). Despite the global economic downturn in the last quarter of 2008, world seaborne trade is estimated to have grown at a rate of 3.6 per cent in 2008. Containerised trade served by shipping lines, which is part of the world seaborne trade, has also continued to grow at a rate of approximately 10 per cent annually over the last two decades (UNCTAD 2009). The increase in liner shipping services has particularly contributed to the widespread adoption of a global sourcing strategy and the supply chain management (SCM) philosophy by a large number of shippers (i.e. manufacturing companies and retailers) to minimise total costs and maximise customer values. Such new strategies force transportation companies to expand their geographical area of coverage and provide a wide range of services for better satisfying sophisticated shippers' demand (Heaver 2002).

In the context of maritime transport, as shippers have advocated supply chain strategies involving the use of fewer suppliers, shipping lines have integrated horizontally in the form of mergers and acquisitions, strategic alliances or slot charters with a view to expanding the service networks and also vertically with container terminals and inland transport to provide an integrated door–to–door service. However, the market environment in which shipping lines and container ports are operating is rapidly changing and is not stable any longer. For instance,

following the repeal of the EC Council Regulation (EEC) 4056/86 in October 2008, the shipping market experienced significant changes in their operational strategies, particularly those serving European Union ports (Marlow and Nair 2008).

Due to such recent changes in maritime transport, the power in the carrier–shipper relationship has shifted from shipping lines towards shippers and, therefore, shipping lines are forced to focus on shipper's demand first to attract shippers' attention, meet their expectations and further develop stronger connections with shippers (Evangelista 2005). Despite the importance of the effective carrier–shipper relationship management, it is difficult to identify literature on this issue in maritime transport–related studies. Only two studies (i.e. Lu and Shang 2007; Durvasula *et al.* 2004) were found to concentrate on customer relationship management (CRM) and two studies from the same author (i.e. Lu 2003a; Lu 2003b) focused on partnering relationships between ocean carriers and shippers. However, the main concept of relationship marketing which is customer loyalty is not explored yet directly between shipping lines and shippers in maritime transport. To retain shippers, attaining their loyalty is of major significance. Therefore, to fill this research gap, customer loyalty will be investigated first in the next section.

2.2 Fundamentals of customer loyalty

Customer loyalty is a key concept to the relationship marketing paradigm in dynamic business environments (McIlroy and Barnett 2000; Morris *et al.* 1999). Since the beginning of the 1990s, customer loyalty has been increasingly identified as an effective device to achieve long–term success both within relationship marketing and business practice (Pritchard *et al.* 1999). In marketing research, the focus shifted from individual transactions towards relationships between buyers and sellers of goods or services, and also in business practice companies are paying attention to the relationships with customers to face the challenges arising from the changing market and increasing competition. This transition can be attributed to the fact that acquiring new customers is much more expensive, time–consuming and difficult compared to keeping them. Reichheld *et al.* (2000) demonstrated that, in the past, building customer loyalty was just one weapon to use against competition but today it has become an essential driver for survival.

As supply chain relationships became significant in

logistics and supply chain research, customer loyalty in the context of developing long-term relationships has begun to be examined by borrowing essential concepts from the marketing literature. Relevant implications can be drawn from logistics and supply chain research because maritime transport has been studied as part of the international logistics supply chain. Similar to marketing research, the definition of customer loyalty and its uses also abound. However, customer loyalty is defined as *'the strength of the relationship between a customer's relative attribute and repeat patronage'* (Dick and Basu 1994). Oliver (1999, p.34) described customer loyalty as *'a deeply held commitment to rebuy or repatronise a preferred product/service consistently in the future, thereby causing repetitive same brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behaviour'*.

As the literature offered a wide range of definitions for customer loyalty, there is a lack of consistency in providing measurement items, according to the way it is conceptualised (Davis and Mentzer 2006). Therefore, the complexity of customer loyalty seems to be apparent when explaining how to measure it within the literature. As seen in Table 1, customer loyalty are conceptualised in different

ways and the number of measurement items are various. For instance, Innis and La Londe (1994) employed 4 items to identify customer's purchasing intentions but Rauyruen and Miller (2007) have used 9 measurement items to measure customer loyalty composed of both purchase intentions and attitudinal loyalty. There is still great deal of debate on the measurement of customer loyalty in terms of identifying whether the dimensions of customer loyalty are attitudinal and/or behavioural and understanding additional dimensions of customer loyalty. However, previous studies highlighted the fact that attitudinal loyalty should be combined with behavioural loyalty in order to clarify customers' true loyalty.

A body of literature on customer loyalty has been investigated in terms of causal relationships with service quality/ performance, customer satisfaction and market share. Table 2 presents the inputs and outputs used to develop causal relationships of customer loyalty. Mostly, customer loyalty has been used as an output/consequence of high level customer satisfaction arising from a high level of service or relationship quality/performance and, on the other hand, customer loyalty has been utilised as an input/antecedent to predict the market share. According to these studies, a positive relationship between satisfaction and loyalty was commonly proposed and confirmed. From these studies, it can be inferred that logistics service performed by shipping lines is critical to create both shipper's satisfaction and loyalty in the context of maritime transport. However, logistics services provided by shipping lines are different from the ones used in logistics and supply chain research due to the unique characteristics of maritime transport. Consequently, studies on logistics service performance in maritime transport should be examined to select critical logistics service attributes before developing a conceptual model.

3. Logistics service performance in maritime transport as an input to customer loyalty

In this paper, 24 studies published since 1990 have been studied based on three perspectives in order to discuss the details of how and what logistics service attributes have been utilised in maritime transport. The studies on carrier selection, logistics service and service quality were included because they have employed similar attributes. There have been a plenty of studies focusing on service quality in port, international logistics company as well as P&I insurance

Table 1 Measures of Customer Loyalty in Selected Logistics and Supply Chain Research

Study	Loyalty conceptualisation	No. of items
Innis and La Londe (1994)	Purchasing intentions	4
Daugherty <i>et al.</i> (1998)	Commitment to vendors, Intentions to repurchase	7
Ellinger <i>et al.</i> (1999)	Repurchase intentions, Relationship commitment	8
Stank <i>et al.</i> (1999)	Customer loyalty (Relative attitude, Patronage behaviour)	6
Stank <i>et al.</i> (2003)	Customer loyalty (Relative attitude, Patronage behaviour)	4
Rauyruen and Miller (2007)	Purchase intentions, Attitudinal loyalty	9
Cahill (2007)	Repurchases(Intentions), Additional Purchases(Intentions), Referrals(Actual behaviour)	12
Saura <i>et al.</i> (2008)	(Affective) Loyalty	2
Davis-Sramek <i>et al.</i> (2008)	Affective commitment, Purchase behaviour	9
Davis-Sramek <i>et al.</i> (2009)	Affective commitment, Calculative commitment, Loyalty behaviour	10

(e.g. An *et al.* 2007; Choi *et al.* 2002; Park *et al.* 2011; Shin *et al.* 2001; Shin *et al.* 2011). However, considering the unique characteristics between different industries, maritime transport studies were examined exclusively to select strategic logistics service attributes. The studies were scrutinised in terms of the perspective since each perspective has a different objective and also shows contrasting results.

Based on the review of the literature, significant variables were selected from those studies. First of all, 'prompt response to problems and complaint' is used most frequently in maritime transport studies, followed by 'on-time pick-up and delivery' and 'knowledge and courtesy of sales personnel'. Most attributes are related to physical distribution activities, but attributes on managing

customer relationships, such as 'cooperation with shippers', 'long-term relationship with shippers' and 'promotional activity of carriers' are also included. These variables suggest that logistics service encompasses both operational and relational strategies. In addition, there are newly added attributes, such as 'ability to provide website service', 'socially responsible behaviour and concerns for human safety' and 'environmentally safe operations'. These variables are crucial since they reflect a new role of shipping lines required by shippers due to the rapidly changing logistics environment. As shipping lines are integrated into international logistics supply chains far beyond solely operating the port-to-port leg, they are highly inclined to be influenced by environment changes such as transportation capacity shortage; international

Table 2 Causal Relationships of Customer Loyalty in Selected Logistics and Supply Chain Research

Study	Context	Input	Output			
Innis and La Londe (1994)	Retail firms of auto glass after market	Customer service performance	Customer satisfaction Attitudes Purchase/repurchase intentions			
Ellinger <i>et al.</i> (1999)	Customers of a manufacturer of personal products	Frequency of meeting Formalised contact Senior management visits	Customer satisfaction Customer loyalty			
Rauyruen and Miller (2007)	Business customers of the courier delivery service industry in Australia	Relationship quality (Service quality, Commitment, Trust, Satisfaction)			B2B customer loyalty	
Cahill (2007)	Firms using 3PL in Germany and USA	Service quality Price satisfaction Relational satisfaction Proactive improvement Fairness Commitment Personal trust Organisational trust Alternatives			Customer loyalty	
Stank <i>et al.</i> (1999)	Restaurant managers in the six largest fast food restaurant chains in USA	Service supplier performance (Operational performance, Relational performance)	Customer satisfaction		Customer loyalty	
Saura <i>et al.</i> (2008)	Manufacturers evaluating suppliers	Logistics service quality	Satisfaction		Loyalty	
Davis-Sramek <i>et al.</i> (2008)	Independent retailers of consumer durables manufacturer	Logistics service quality components (Operational order fulfillment service, Relational order fulfillment service)	Satisfaction	Affective commitment	Purchase behaviour	
Davis-Sramek <i>et al.</i> (2009)	Independent retailers of consumer durables manufacturer	Order fulfillment service quality (Technical service quality, Relational service quality)	Satisfaction	Affective commitment, Calculative commitment	Loyalty behaviour	
Daugherty <i>et al.</i> (1998)	Customers of a manufacturer of personal products	Logistics/distribution service performance	Customer satisfaction		Customer loyalty	Market share
Stank <i>et al.</i> (2003)	3PL executives and their customers	Logistics service performance (Operational performance, Relational performance, Cost performance)	Customer satisfaction		Customer loyalty	Market share

growth; economies of scale and scope; security concerns; environmental and energy use concerns (Meixell and Norbis 2008). As a result, even though the last three variables were only adopted once in previous studies, they should be included for future research. By using those selected variables, a conceptual model is developed in the next section.

4. The development of a conceptual model

This paper is designed to extend the body of knowledge by applying the important marketing concept of customer loyalty and particularly examining it with logistics service performance. Relationship quality and switching barriers are also incorporated to help better understand the interrelationships between those constructs. A few studies have already begun to look at these relationships in logistics and supply chains as well as the marketing literature but in maritime transport research less attention has been paid to those 'soft' concepts. Nevertheless, in reviewing transport-related literature, it was shown that these concepts have been scarcely investigated empirically and only two studies were found to deal with this issue. Exploring intermodal railroad-truck usage at the carrier level, Evers and Johnson (2000) proved that a shipper's overall perception of the railroad's intermodal service is the driving force of shipper satisfaction and, in turn, the shipper's satisfaction with the carrier and the shipper's ability to change the carrier have a positive influence on a shipper's future usage of a railroad's intermodal service. In addition, Chen and Lee (2008) confirmed that service quality has a positive impact on customer satisfaction as well as an indirect positive influence on customer loyalty. Apart from these studies, customer loyalty has not been examined in the maritime transport context. To fill this research gap, this paper proposes a conceptual model by linking those constructs based on the previous discussion. As seen in Fig. 1, the model developed in this paper is composed of four constructs: logistics service performance offered by shipping lines; relationship quality; switching barrier; and shipper loyalty. Customer loyalty is changed into shipper loyalty to highlight the maritime transport context.

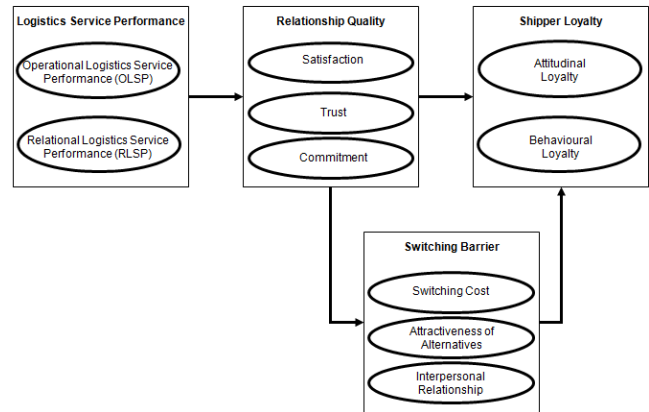


Fig. 1 The Conceptual Model

As an effective tool for building customer loyalty, shipping lines' service performance leveraging logistics capabilities is selected and divided into two sub-constructs: operational logistics service performance (OLSP) and relational logistics service performance (RLSP). The importance of two aspects of logistics service performance have been underlined in logistics and supply chain research already (e.g. Collier 1991; Davis-Sramek *et al.* 2008 Davis-Sramek *et al.* 2009; Stank *et al.* 1999; Stank *et al.* 2003; Zhao and Stank 2003). First, OLSP is defined as '*the activities performed by service providers that contribute to consistent quality, productivity and efficiency*' and RLSP is defined as '*those activities that enhance service firms' closeness to customers, so that firms can understand customer needs and expectations and develop processes to fulfill them*' (Stank *et al.* 1999). According to the definition, service providers are shipping lines and customers are shippers in this paper. Compared to the SERVQUAL¹ dimensions, reliability is the most relevant OLSP and OLSP also includes physical features of the service and price. On the other hand, responsiveness, assurance and empathy are all related to RLSP (Stank *et al.* 1999; Stank *et al.* 2003).

Stank *et al.* (2003) demonstrated that only relational performance has a positive impact on satisfaction. This result supported the view that the relational aspect is becoming recognised as an 'order winner', but the operational aspect acts as an 'order qualifier'. As shipping industry experiences rapid changes, such as the repeal of the conference systems and integration into international

1) Parasuraman *et al.* (1988) developed a service quality measurement instrument, SERVQUAL, to empirically assess the gaps between customer expectation and perceptions of service quality in service and retail organisations. Based on a 22-point scale, five broad dimensions of service quality were identified as follows: (1) reliability (the ability to perform the promised service dependably and accurately); (2) responsiveness (the willingness to help customers and to provide prompt service); (3) assurance (the knowledge and courtesy of employees and the ability to convey trust and confidence); (4) empathy (the provision of caring, individualised attention to customers); and (5) tangibles (the appearance of physical facilities, equipment, personnel, and communications materials).

logistics supply chains, it is important to examine which aspects of logistics service performance are more significant to shipper's satisfaction as well as loyalty. However, in previous maritime transport studies there was no differentiation on logistics service performance. Therefore, firstly, the logistics service attributes derived from the literature review are divided into two sub-constructs based on the previous integrated approach (Table 3).

Table 3 Two Key Aspects of Logistics Service Attributes

Operational Logistics Service Performance (OLSP)	
On-time pick-up and delivery	Socially responsible behaviour and concerns for human safety
Accurate documentation	Environmentally safe operations
Pricing flexibility in meeting competitor's rates	Ability to provide extensive EDI
Short transit time	Ability to trace and track cargoes
Shipment safety and security	Ability to provide website service
Service frequency	Ability to provide flexible service
Equipment availability	Ability to provide door-to-door services
Geographic coverage	Ability to provide consolidation services
Warehousing facilities & equipment	Ability to provide reliable and consistent service
Financial stability	Ability to provide customs clearance service
Convenience in transactions	Ability to provide packaging and labeling services
	Ability to handle shipments with special requirements
Relational Logistics Service Performance (RLSP)	
Prompt response to problems and complaint	
Knowledge and courtesy of sales personnel	
Cooperation with shippers	
Long-term relationship with shippers	
Promotional activity of carriers	

4.1 Relationship Quality

Due to the uncertainty stemming from the intangibility and complexity of logistics services provided by shipping line, sales person plays a pivotal role in maritime transport, and it is necessary to manage shippers' relationship quality to reduce the uncertainty. Consequently, relationship quality is included in this conceptual model to examine how it is related to logistics service performance and whether it leads to shipper loyalty. Based on previous studies, relationship quality in this paper is viewed as a higher-order construct composed of three sub-constructs: satisfaction; trust; commitment.

Based on a review of the literature, although many factors contribute to relationship quality, it was proved that most of the literature tends to support relationship quality as an outcome of service quality. The rationale behind this is that the evaluation of the service quality provided determines the customers' level of relationship quality with the service provider. Relationship quality plays a vital role in reducing considerable uncertainty in many service

contexts and the potential of service failures customers face (Qin *et al.* 2009). However, there are few studies which examine the link between logistics service quality and relationship quality. Only customer satisfaction, one of the constructs of relationship quality, has been considered with logistics service quality in the supply chain context. For example, Stank *et al.* (1999) concluded that both operational and relational performance of logistics service have a positive impact on customer satisfaction. Mentzer *et al.* (2001) found that for different customer segments, different logistics dimensions affect satisfaction positively. Therefore, according to the literature on the link between service quality and relationship quality which consider trust or commitment together with satisfaction, certain relevant implications can be drawn for examining relationship quality with the logistics service quality in this research.

4.2 Switching Barrier

A switching barrier represents the consumers' difficulties and costs when switching to other providers (Jones *et al.* 2000). More specifically, switching barrier is any factor which makes it more difficult and costly or gives the financial, social and psychological burden to a customer dissatisfied with the existing service when switching to a new service provider (Fornell 1992). Thus, a customer is obliged to remain with the existing service provider if the switching barrier is high. It is of significance to examine switching barriers in the context of maritime transport since such barriers are likely to be prevalent given the unique characteristics of maritime transport, such as its geographically disperse nature. Therefore, this paper focuses on switching barriers which include three sub-constructs, namely, switching cost, interpersonal relationship and attractiveness of alternatives.

The switching barrier concept has been employed in a number of settings, including business-to-business and employer-to-employee relationships, in order to understand its direct or moderating effect. However, compared to a number of empirical studies validating the main effect of switching barriers on customer loyalty, few studies test for the moderating effects of switching barriers on the relationship between satisfaction and customer loyalty. Loyal customers sometimes do not defect even though they are dissatisfied. This is because of the presence of high switching barriers. This indicates that the switching barrier provides a useful insight and plays a significant role in explaining the link between customer satisfaction and customer loyalty.

For instance, Ranaweera and Prabhu (2003) employed an holistic approach that investigates the combined effects (the main and interaction effects) of satisfaction, trust and switching barriers on customer retention in a continuous purchasing setting. By testing hypotheses on data from a large-scale mail survey of fixed line telephone users in the UK, it was revealed that switching barriers both impact positively on customer retention and also moderate the relationship between satisfaction and retention. Therefore, it was argued that companies should endeavour to make switching barriers a complement to satisfaction. In addition, an empirical study by Chen and Wang (2009) based on the life insurance industry showed support for the moderating role of switching barriers. This demonstrates that the relationship between customer satisfaction and loyalty is contingent on switching barriers.

4.3 Shipper Loyalty

Although there is no consensus on definitions and types of customer loyalty, it is believed that only measuring the behaviour aspect of customer loyalty has limited results. Moreover, while behavioural loyalty contributes to generating profitability, attitudinal loyalty helps service providers to form an invisible barrier for their customers when switching costs are low. Accordingly, for measuring shipper loyalty both behavioural and attitudinal aspects of loyalty are considered in the conceptual model of this paper.

5. Conclusion and implications

In this paper a conceptual model, linking logistics service performance and customer loyalty while considering relationship quality and switching barriers in maritime transport, was proposed to gain an insight into the carrier-shipper relationship. Building customer loyalty is of critical importance since it can act as a stable source of competitive advantage as well as a barrier to the competition in maritime transport. In addition, logistics service performance of shipping lines was revealed to be a significant input for creating shipping loyalty.

The implications of this paper are manifold. First, this is a first attempt to develop a conceptual model of shipper loyalty associated with logistics service performance in maritime transport. While both carrier-shipper relationship and understanding shippers' demand have been emphasised, there are few studies examining shipper loyalty, particularly with logistics service performance in maritime transport studies as compared to relationship marketing and logistics

and supply chain research. Simply satisfying shippers does not guarantee that they are always loyal. Therefore, knowing the factors contributing to the retention of shippers is more critical.

Secondly, 28 critical logistics service attributes found through a comprehensive literature review were firstly divided into two sub-constructs, OLSP and RLSP, in maritime transport. Even though customer relationship management became important in maritime transport, there has been no discussion of which aspect of logistics service performance is more critical to shippers, since OLSP and RLSP were combined in previous studies.

Despite the significant implications, this paper may have limitations. First, this study only focused on developing a conceptual model but has not examined it empirically. Secondly, only four major factors were considered in the research model. Therefore, subsequent empirical study using questionnaire surveys is necessary to verify the conceptual model and the variables which moderate the relationship of constructs (e.g. relationship age) can be considered. Furthermore, a group comparison could be conducted to identify the different degree of customer loyalty and the factors affecting customer loyalty since shippers and freight forwarders have different characteristics and priorities for selecting shipping lines. In terms of logistics service performance, the number of attributes of relational logistics service performance is smaller than the number of operational ones. Thus, new attributes should be added from other studies, particularly relationship marketing and customer relationship management (CRM), before testing the model.

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