

RELATIONAL GOVERNANCE STRUCTURE TO MODEL LOGISTICS CUSTOMER SERVICE

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Abstract

Using the agency theory as a theoretical foundation; this study investigates the effects of relational governance structure on logistics customer service in association of risk management and reward sharing as intervening variables. Survey data of seventy logistics customer service provider firms was collected from Pakistan and analyzed with partial least squares based structural equation modeling (PLS-SEM). Results revealed that there is a positive relationship between relational governance structure and logistics customer service. Additionally, risk management mediates the relationship of relational governance structure with logistics customer service. However, reward sharing does not intervene the relationship of relational governance structure and logistics customer service. Logistics customer service provider firms need to consider risk factor. This study fills a gap in our understanding of the effects of relational governance structure on logistics customer service in association of risk management and reward sharing.

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Introduction

Relational governance structure is an important aspect (Ebers & Oerlemans, 2016) when it comes to outsourcing of logistics activities. Recently, there is renewed interest for outsourcing of logistics service due to firms' enhanced utilization. Logistics customer service is generally concentrated on the benefits to work with the third-party logistics in supply chain management. Risk managing is determined in the form of critical issue for profitable outsourcing. Third-party logistics' relationships contain considerable risk due to opportunism. There is a need to investigate a framework for risk management and reward sharing mechanism in outsourcing relationships between buyer and supplier. Rising business rivalry requires firms to broaden their focus on core business and manage upstream supply. Therefore, there are latest dimensions of collaboration of several businesses as value chains. Supply chains are complex inter-dependable network of multiple organizations such as service vendors and clients (Pfohl, Gallus, & Thomas, 2011). Logistics customer service is initiated on the basis of the sub-agreement of production and service. Logistics customer service market is growing worldwide; so, logistics customer service providers look for cooperation among business partners such as: shipment forwarders, freight managing agents, warehouse professionals, computer software firms, monetary, and financial agencies (Lambert, García-Dastugue, & Croxton, 2005). This study investigates the relationship of relational governance structure and logistic customer service through risk management and reward sharing mechanism. Additionally, it attempts to uncover the conceivable influences of risk and reward sharing mechanism on efficiency of logistics customer service. A growing number of firms are outsourcing their supply chain activities to logistics customer service firms. One of the greatest challenges is relational governance structure to deal with critical issues for profitable outsourcing of logistics customer service in consideration of risk management and reward sharing. Thus, it indicates a need to understand the effect of relational governance structure on logistics customer service through intervention of risk management and reward sharing. This study answers the following two research questions.

- Is there a positive association between relational governance structure and logistics customer service?
- Do risk management and reward sharing mediate between relational governance structure and logistic customer service?

Literature Review

Relational Governance Structure

Governance structure is defined as “a shorthand expression for the institutional framework in which contracts are initiated, negotiated, monitored, adapted, enforced, and terminated” (Palay, 1984, p. 265). There are three types of interorganizational governance such as: bilateral (relationship-based), unilateral (authority-based), and market (contract-based), this relies on socialization processes, bureaucratic structures, and price mechanism, respectively to handle interfirm activities (Heide, 1994). Relational governance structure is referred to “interfirm exchanges which include significant relationship-specific assets, combined with a high level of interorganizational trust”, as well as “is embodied in both the structure and the process of an interorganizational relationship” (Zaheer & Venkatraman, 1995). Firms struggle to build strong relationships with their partners to influence relationship-oriented governance mechanism. Therefore, relational governance is receiving enhanced attention from practitioners and scholars (Dong, Ma, & Zhou, 2017). Firms strive to gain competitive advantage through inter-firm relationships based on utilization of influence strategies to improve the advantage as well as their engagement of behaviors is to strengthen the relationships (Paswan, Hirunyawipada, & Iyer, 2017). Transaction cost economy enlists three governance structures such as markets, hybrids, and hierarchies (Williamson, 2008). Governance implies as the way that infuse order. Thus it is to minimize conflict and comprehend shared interests of mostly markets, hierarchies and hybrids. Relational governance structure emphasizes joint efforts and social interaction to build up and maintain long-term relationships based on trust and commitment (Dong et al., 2017). Relational governance structure is valuable in reduction of transaction cost enhancement of interfirm activities as compared with traditional control mechanisms of contract or authority (Frazier, 2009).

Risk Management

Outsource of logistics can minimize the financial expenditures; additionally, this improves functional convenience and enhancing logistics service standard (Krakovics, Eugenio Leal,

Mendes Jr, & Lorenzo Santos, 2008). Several risks in prospective of logistics customer service are reported in literature (Selviaridis & Spring, 2007); these risks are such as low service performance, disruption to inbound flows, inadequate provider expertise, inadequate employee expertise, sustained time and effort spent on logistics, loss of customer feedback and inability of logistics customer service to deal with special product needs and emergency circumstances. Consumers of logistics customer service vendors have reported that they had not been provided the envisioned standards of business advantages and service (Büyüközkan, Feyzioğlu, & Şakir Ersoy, 2009). Logistics customer service's customers generally face many quality standard risks, such as inadequate order, time lapses, delays, damages, and loss of goods. Although high quality needs are positioned as the essential cause for non-renewal of a logistics outsourcing agreement (Gotzamani, Longinidis, & Vouzas, 2010); however, standard risk controlling and management of outsourcing logistics service has received less consideration. There are risk management concerns in logistics customer service as developing effective associations. Value is truly an essential component of partnership development (Tsai, Lai, Lloyd, & Lin, 2012). As well as, there has been increasing curiosity about revealing the characteristics of value (Menon, Homburg, & Beutin, 2005). There is discussion regarding if the advantages from logistics outsourcing exceed the possibility of partnership breakdown (Kremic, Tukel, & Rom, 2006). Risk sharing occurs when companies increase the mutual cooperation for workforce and economic establishments. Furthermore, risk sharing demonstrated in involvement during times of problems could be financially reliable if it sustains human resource that is going to usually become dissipated. Logistics customer services' relationships hold significant risk due to the possibilities of treachery and personal desire actions.

Reward Sharing

Long term viability of a supply chain is based on well coordinated governance structure that shares risks and reward of supply chain partners (Gray, Boehlje, & Preckel, 2006). Outstanding partnership is needed where logistics customer services and manufacturer establish systems to share profits, expenditures, and losses. It requires both parties to understand the advantages that consequences through the sharing (monetary and non-monetary) and the understanding about the fair sharing (Bajec & Zanne, 2010). A best managing of logistics customer service appears by means of assigning sources, time and reward, helping organize buying, establish strategic vendor association and also determined for the value inclusion (Ab Talib & Abdul Hamid, 2014). There is a need to study the reliable

systems for the reward sharing in outsourcing association, gain-sharing necessary arrangements, while standards for sharing rewards could differ substantially (Leuschner, Carter, Goldsby, & Rogers, 2013). Reward sharing can increase individual benefits for supply chain partners (Mehralian, Moosivand, Emadi, & Asgharian, 2017).

Logistics Customer Service

The importance of relationship between logistics customer service provider and the outsourcing firm is documented in literature (Bolumole, Grawe, & Daugherty, 2016). Terms like ‘third party logistics’ ‘logistics alliances’ ‘logistics outsourcing’ ‘contract distribution’ and ‘contract logistics’ have been utilized equally to explain the organizational activity of outsourcing of all logistics tasks that formerly done in-house (Lieb & Bentz, 2005). Outsourcing firms takes it as third party service providers, and helps to rise the effectiveness and efficiency of a company’s logistics function (Christopher & Peck, 2004). Logistics customer service firm performs logistic operations for the manufacturer either partially or completely. It can be defined as logistics customer service providers are storage companies, carriers, and forwarding agents. Logistics customer service is typically related with the offering of numerous, bundled services, instead of just single warehousing or transportation operations (Leahy, Murphy, & Poist, 1995). Logistics customer service firms attain expertise in their services over distinction, with adding value to their services along a number of diversified options starting from limited to extended services (Murfield, Boone, Rutner, & Thomas, 2017). Logistics customer service activities are grounded on long-term and short-term contractual dealings as divergent to on spot procurements of logistics facilities (Murphy & Poist, 1998). Logistics customer service outsourcing plan is the exchange among significant benefits and drawbacks (Tsai et al., 2012). Logistics customer service produces several advantages where outsourcing is actually applied regarding a long lasting union (Mothilal, Gunasekaran, Nachiappan, & Jayaram, 2012).

Theoretical Foundation

Research framework is based on agency theory (Ross, 1973) It is primarily the function from the agency theory which is certainly highlighted and viewed as theoretical base for recommended model in this research. Although, progressively the area covering by the agency theory had been expanded towards the management side for establishing the co-operation among diverse individuals with various objectives in the business, and accomplishment of the objective congruency (Eisenhardt, 1989). Agency theory is considered to be investigated with reward sharing mechanism in logistics service setup. Agency theory

considers that the two parties tend to be risk averse. Under this situation, extent and contents from the provided accounting data and additional data options could turn into an important problem in risk sharing and managing the agent's activities (Baiman, 1990). The former standard agency method, though, has additionally been expanded to circumstances where there exist several agents (Antle, 1982; Holmstrom, 1982; Radner, 1981), personal data (Penno, 1984), a number of time period performance (Radner, 1981), and multiple-goal models (Namazi, 1985). Furthermore, the impact of numerous ethnicities on the premise of the agency theory has been investigated (Kren & Tyson, 2009). Considering the agency theory perspective, an organization might be classified as a nexuses of written agreement (Radner, 1981), contracts between distinctive persons (Namazi, 1985). This study draws into the agency theory to investigate the effect of relational governance structure on logistics customer service with intervention of risk management and reward sharing as shown in Figure 1. Thus, under the shed of agency theory, following hypotheses are postulated to empirically test the research framework.

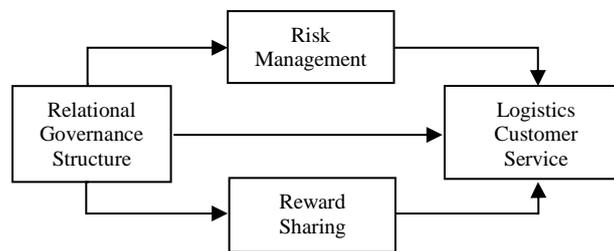


Figure 1: Research framework

- H₁:** There is a positive relationship between relational governance structure and risk management.
- H₂:** There is a positive relationship between relational governance structure and reward sharing.
- H₃:** There is a positive relationship between a relational governance structure and logistic customer service.

- H4:** Risk management mediates the relationship of relational governance structure and logistic customer service.
- H5:** Reward sharing mediates the relationship of relational governance structure and logistic customer service.

Research Methodology

Questionnaire survey is generally utilized for marketing and supply chain management studies (Flynn, Sakakibara, Schroeder, Bates, & Flynn, 1990). Moreover, importance of quantitative measures with survey study technique ruled various other empirical investigation methods of supply chain management (Leuschner, Rogers, & Charvet, 2013). Respondent selection is based on two primary standards as significant experience with knowledge of logistics customer service; and presently working in firm considered for being providing service of the logistics in service market. A total number of 86 logistics customer service firms are operating in Pakistan. Logistics customer service is an emerging sector; thus, few numbers of firms are operating in this particular context. The questionnaires were sent to entire population through postal, email, as well as personally administered. There were 74 filled questionnaire received; four were rejected due to incompleteness. Thus, 70 questionnaires were considered to be reliable and valid for testing.

The main elements of a research questionnaire are appropriate measures and content validity. The measuring items for a variable should have fundamental information revealed in a construct (Churchill Jr, 1979). Content validity is generally attained by using significant literary works analysis. The instruments for the survey are developed. Constructs' measures are developed based on review of pertinent literature (see Appendix). All items are measured on a five-point Likert scale with 'strongly disagree' to 'strongly agree'. Demographics section of survey contains queries on demographics of gender, education, and work experience of the respondents. There were 65.7 % male and 34.3 % female respondents with education such as 43% graduates, 52% masters, and 5% undergraduates.

Data Analysis

Multivariate Data Analysis

Research framework as shown in Figure 1 depicts the inter-relationships among the constructs of conceptual model. Multivariate data analysis with structural equation modeling is recommended when there is interdependence among the constructs (Joseph F Hair, Black, Babin, Anderson, & Tatham, 2010). Partial least squares structural equation modeling (PLS-SEM) is utilized in this study. Data is organized and evaluated by using SMART PLS 3.0 and SPSS 21. Descriptive statistics is attained through SPSS 21. PLS-SEM is utilized because it can convert non-normal data to generate vigorous results (Ringle, Sarstedt, & Mooi, 2010) as well as it is appropriate for small sample size (Joseph F Hair et al., 2010). Cronbach's α (Cronbach, 1951) is used to determine reliability. Scale is considered reliable when α is equal to 0.70 and above (Peterson, 1994). Whereas, this has been observed the fact that Cronbach's α applies rigid assumptions concerning similar significance almost all indicators as well as the way of measuring reliability might be partial (Li, Rao, Ragu-Nathan, & Ragu-Nathan, 2005). In this research Cronbach's α is computed with consideration of principle that a value with 0.60 to 0.70 is considered as acceptable level (Peterson, 1994). The Cronbach's α is concerned to check instrument reliability and consistency. It is revealed that Cronbach's α of relational governance structure is $\alpha = 0.704$ with composite reliability of $CR = 0.819$ and average variance extracted as $AVE = 0.532$, risk management is $\alpha = 0.67$ with composite reliability of $CR = 0.819$ and average variance extracted as $AVE = 0.605$; reward sharing is $\alpha = 0.66$ with composite reliability of $CR = 0.814$ and average variance extracted as $AVE = 0.595$; logistic customer service is $\alpha = 0.67$ with composite reliability of $CR = 0.819$ and average variance extracted as $AVE = 0.602$. Thus, the reliability level is acceptable as shown in Table 1.

Table 1: *Reliability values of constructs and correlations*

Constructs	Cronbach's Alpha	CR	AVE	Items	1	2	3	4
1 RGS	0.704	0.819	0.532	4	1			
2 RKM	0.679	0.819	0.605	3	0.535	1		
3 RWS	0.661	0.814	0.595	3	0.649	0.492	1	
4 LCS	0.674	0.819	0.602	3	0.590	0.637	0.392	1

Note: CR = composite reliability and AVE = average variance extracted; correlation is significant at 0.01 level

Relational Governance Structure to Model Logistics Customer Service

RGS = relational governance structure, RKM = risk management, RWS = reward sharing, LCS = logistics customer service

Exploratory factor analysis with *VARIMAX* rotation is conducted for all measurement items. All the items with values above than 0.60 without cross loadings are kept for the variables which loaded on designated factors. Furthermore, this confirmed the discriminant validity as well for the measurement items. See Table 2.

Table 2: *Factor loadings*

Items	Logistics customer service	Relational governance structure	Risk sharing	Risk Management
LCS33	0.786			
LCS35	0.846			
LCS38	0.689			
RGS2		0.761		
RGS3		0.627		
RGS6		0.750		
RGS9		0.770		
RKM11				0.817
RKM13				0.854
RKM19				0.647
RWS22			0.765	
RWS26			0.703	
RWS28			0.840	

The primary criteria to evaluate structural model is with the measure of R^2 ; value of R^2 for the latent construct of logistics customer service is 0.494. This significant as per recommendation (Garson, 2012). The path coefficients are reported in Table 3 and graphical representation is shown in Figure 2.

Table 3: *Regression coefficients of structural model*

	Path co-efficient	Mean	STDEV	T Statistics	P Values	
H ¹	Relational governance structure	0.506	0.531	0.090	5.614	0.000

→ Risk Management						
H ²	Relational governance structure → Reward sharing	0.670	0.676	0.066	10.077	0.000
H ³	Relational governance structure → Logistics customer service	0.365	0.366	0.138	2.643	0.008
H ⁴	Risk Management → Logistics customer service	0.503	0.492	0.128	3.943	0.000
H ⁵	Reward sharing → Logistics customer service	-0.089	-0.064	0.146	0.606	0.544

To accurately predict the scenario, a model should have a good fit with correlation. Stone-Geisser's Q^2 (Geisser, 1974; Stone, 1974) is the most common measure to predict relevance. The study empirically tested reflective measurement model; thus, Q^2 value is obtained through utilization of blindfolding test of SMART PLS 3.0. Q^2 value of logistics customer service is 0.246, Q^2 value for reward sharing is 0.229, and Q^2 value for risk management is 0.131; all the values are greater than zero; therefore, there is predictive relevance for model fit (Joe F Hair, Ringle, & Sarstedt, 2011).

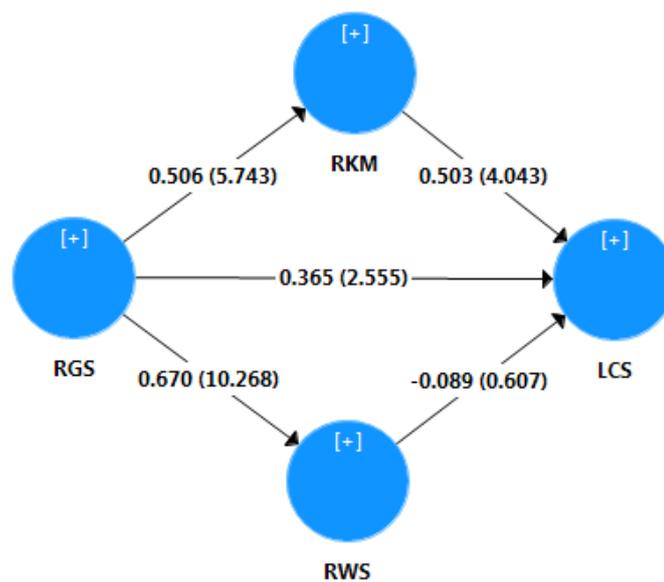


Figure 2: Model for relational governance structure with path estimates

Discussion and Conclusion

The utilization of logistics customer service is increased in recent times. Firms are deciding to adopt logistics customer service, which indicates the outsourcing of specific own-managed logistics tasks to specialized logistics customer service providers. There are several advantages to consider the logistics customer service for the business. However, it has some risks. An approach to lower the risks is outsourcing which prevails within logistics tasks; although, it has remained the problem for a business in the course of its logistics customer service partnership. This study investigated a framework to share risk and manage reward in association to relational governance structure which exists in various levels of logistics subcontract process. Relational governance structure has positive relationship with risk management, reward sharing, and logistics customer service. Risk management mediates between relational governance structure and logistics customer service. However, reward sharing does not mediate between relational governance structure and logistics customer service. Therefore, the logistics customer service partnership is the agent alliance. Prior to signing logistics customer service agreements, for the assistance the contractor (agent) have to understand details that subcontracting firms (clients) have no clue about. It might be harmful for subcontracting firms, so service providers (agents) can easily sign the agreement which could be beneficial for them. This can lead to betrayal of interest while managing risk and sharing rewards.

Because of the established risk managing and reward sharing framework as presented in this study; this can significantly minimize the potential betrayal and personal interest generation scenarios. It means that risk management affects if added in relational governance structure with logistic customer service in a setup that will increase the trust level and potential long term relationship as well as it decreases the betrayal chances for both parties. It signifies that logistics customer service is to carry on to produce strategically and operating value and creative techniques to enhance logistics performance. There is a necessity for a transparent methodology to deal with logistics customer service reward sharing and risk management issues. This is discovered that exposure to risk is actually reduced, which may become influenced by a variety of aspects. Agreement control and challenges sharing are effective techniques in risk handling grounds. The standard methods of risk handling and control tend to be risk consciousness, risk analysis, and risk measure, risk manage as well as managing impact assessment.

The potential risks of logistics customer service become goal as part of functional activity, even though logistics customer services are backed by numerous powerful causes. It can be explained that inadequate administration and management, lack of control, lack of customer concentrates, and deficiency of clarity, missing pricing control, deficiency of cost control, insufficient trust and dual outsourcing are primary outcomes of logistics customer service in connection to relational governance structure. The framework is to support risk management within logistics customer service collaboration business; however, reward sharing is not mediating between relational governance structure and logistics customer service. The future research can offer an empirical evaluation in a different context to ensure the proposed framework in addition of opportunism construct within the research framework. The primary limitation is the emerging sector of logistics customer service in specific context for the suggested framework which needs to be validated in the foreseeable future through the field research and framework implementation.

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Appendix: Measurement items of the questionnaire

Relational governance structure

Both of our customer/partner and our firm view our relationship as

RGS1: ...something we both are very committed to

RGS2: ...very important to our firms

RGS3: ... something or firms intend to maintain indefinitely

RGS4: ... something our firms really care about

RGS5: ... deserve our firm's maximum efforts to maintain and preserve

RGS6: Both sides are willing to cooperate

GRS7: Both my customer/partner and we try to accommodate each other when making decisions that affect mutual outcomes

RGS8: Because of the outsourcing relationship, both my partner and we have gained strategic advantages over our competitors

RGS9: The outsourcing relationship has not resulted in strategic advantages

RGS10: Because of the outsourcing relationship, both my partner and we have gained benefits

Risk Management

The services offered by us to our customer/partner compared the other services in general are

RKM11: ... in a stable market

RKM12: ... easy to monitor trends

RKM13: ... have stable industry volume

RKM14: ... have accurate sales forecasts

RKM15: ... predictable

RKM16: ... the demand for our services varies significantly over time

RKM17: ... the market conditions for the services we provide for our customers/partners are very unstable

RKM18: ... the services we provide for our customers/partners have very high innovation rates and short life cycles

RKM19: ... our most important competitors are regularly carrying out significant services adjustments and development of new services

RKM20: ... both my customer/partner and we share loss caused by any risk or uncertainty mentioned above and our customer/partner helps out and take responsibility of risk and losses according to pre-set standards

Reward sharing

RWS21: We have generated a lot of profits together

RWS22: We have increased joint profits shared between us

RWS23: This outsourcing relationship has enabled both firms to achieve greater profits than we could have without the partnership

RWS24: Relative to our competitors, the outsourcing relationship allows us to generate superior profits

RWS25: Both firms have achieved greater profits than we could have with other potential outsourcing partners

RWS26: Whenever we achieved a good joint working profits between us but customer/partner does not like to reward us

RWS27: Whenever, change in competitive advantage relative to our largest competitor has markedly improved the customer partner appreciate us for this and provides good incentives

RWS28: Whenever, change in market share relative to our largest competitor has markedly improved the customer partner appreciate us for this and provides good incentives

RWS29: Whenever, change in revenue relative to our largest competitor has greatly increased the customer/partner appreciate us for this and provides good incentive

RWS30: My customer/partner is generous in rewarding me when we both make good profit due to my firm's good performance and respected mutual profit distribution standards

Logistics customer service

LCS31: Compared to our competitors, our logistics services are of higher quality

LCS32: Compared to our competitors, our logistics services are of lower cost

LCS33: Compared to our competitors, our logistics services are consistently delivered/performed on time

LCS34: Compared to our competitors, our logistics services are more flexible to meet customer needs

LCS35: Compared to our competitors, our products are delivered damage free

LCS36: Senior managers in both firms believe outsourcing plays a role in the future success of each firm

Relational Governance Structure to Model Logistics Customer Service

LCS37: It is clear that senior managers in both firms want this outsourcing relationship to be a success

LCS38: We do not feel that upper managers in either firm place a great deal of significance on this outsourcing partnership

LCS39: I feel that this outsourcing relationship is strongly supported by senior managers in our firm and our partner's firm

LCS40: We both have senior level management commitment toward the use of alliances to achieve strategic goals