

**Trust, Commitment, Satisfaction, Strategy Alignment,
Logistics Outsourcing Relationships Quality and
Logistics Performance: A Case of Selected Manufacturing
and Distribution Firms in Uganda**

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Abstract

This study sought to examine elements of trust, commitment, satisfaction and strategy alignment as antecedents of logistics outsourcing relationship quality (LORQ), and assessed their influence on firm logistics performance. The study adopted a cross-sectional and exploratory study designs. Descriptive, analytical, quantitative and qualitative designs were also used. Findings showed that there is a strong positive relationship between trust, commitment, satisfaction and strategy alignment, and logistics outsourcing relationship quality; and between logistics outsourcing relationship quality and logistics performance. Findings also show that trust, commitment, satisfaction and strategy alignment when combined explain up to 70% variance in LORQ with trust being the most important predictor explaining 42% variance in LORQ. Meanwhile results obtained from a forward step-wise regression show that LORQ is a significant predictor and explains up to 50.9 percent variance in logistics performance. A full mediation effect is confirmed on LORQ and trust and strategy alignment, while a partial mediation exists between LORQ and commitment and customer satisfaction. The studied independent variables can predict up to 67.7

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percent (and with the inclusion of LORQ) they predict up to 68.1 percent) variance in logistics performance implying that only 31.9 percent variance in logistics performance may be explained by other factors. In our analysis we observe that logistics outsourcing relationships largely involve two-way information exchange, coordination and trust. Elements of trust, commitment, and satisfaction may be viewed as both antecedents and effects of relationship quality. The logistics outsourcing strategy should thus be evaluated from a duo-perspective. This study explore logistics outsourcing as a strategy for enhancing logistics performance in manufacturing and distribution firms within the context of a developing country. The study provides an empirical investigation on the relationship between outsourcing relationship quality and logistics performance, an aspect that has not been largely explored before.

Key words: *Trust, Commitment, Satisfaction, Strategy Alignment, Logistics Outsourcing Relationship Quality, Logistics Performance.*

Introduction

Logistics outsourcing in which, a third-party logistics (3PL) provider or a logistics service provider (LSP) is contracted for all or part of an organization's logistics operations has seen consistently increasing use (Wang and Regan, 2002). This has been propelled by the need for organizations to focus on their supply chain and logistics operations if they are to achieve more effective and efficient business processes. Most of these organisations (especially those in the manufacturing and distribution sectors) have strategically moved to outsource many of their logistics functions/operations as a way to restructure their distribution networks and gain competitive advantage. According to Novack et al (1992) and Tai (2006), the logistics function creates place, time, quantity, and space value which are essential to customer satisfaction. World over, outsourcing

logistics operations is increasingly becoming a competitive tool because it creates better customer value and improved customer satisfaction. Since 1990, the world wide practices of outsourcing logistics activities have been increasing resulting in an annual 10% increase (Sohail and Sohal, 2003). According to “Cap Gemini Ernst and Young” survey (2002), the rates of resorting to logistics suppliers have reached 94% in Europe, 78% in North America and 92% in Pacific Asia. Meanwhile in the United States (U.S.) the annual expenditure for 3PL services is seen to have grown from \$10 billion in 1994 (Barks, 1994) to approximately \$80 billion in 2004 (Gecker, 2004 cited by Knemeyer and Murphy, 2005).

Previous studies on relevant components of successful relationships (Dawar, Parker and Price; 1996, Dion, Easterling and Miller; 1995, Gupta; 1983) indicate trust, commitment, satisfaction, customer orientation, and communication as the most relevant dimensions of successful relationships and relationship quality. Trust commitment theory draws greater emphasis on trust, commitment and satisfaction as central antecedents of relationship quality. Johnston and Johnston (2006) added strategy alignment although this has been less researched. According to Deepen (2007) and Morgan, and Hunt (1994) underlying successful logistics outsourcing relationships are successful relationships determining variables: Commitment and Trust. When dealing with relationships, these two (2) dimensions are critical determinants of relationship quality as may be measured by information sharing, decision synchronization and incentive alignment. These measures have been studied in collaboration research and may be ideal measures for interaction quality in a socio-business aspect of such business relationships as logistics outsourcing. Floh (2010) affirms that such factors as satisfaction, trust or commitment are antecedents of relationship closeness. According to Rhea and Shrock (1987), managing an effective transformational outsourcing relationship requires commitment from all included parties, and the success of outsourcing relationship depends on cooperation among

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participants who must share their business information, otherwise cooperation is not possible. Anecdotal evidence reveals these elements of trust, commitment satisfaction and strategy alignment as either missing or inadequately evident in outsourcing relationships amongst Ugandan firms. It is also argued that outsourcing organizations are not achieving the desired benefits from outsourcing (Ronan, 2000), and that there is clear evidence that in some cases, “logistics outsourcing has been a source of corporate failure and disappointment” (Boyson, et al., 1997:73). Consequently, outsourcing relationships have had to fail, and most companies have had to bring back ‘In-house’ initially outsourced activities (MacLaughlin Des and Peppard, 2008), thus the potential and role of logistics outsourcing in improving logistics performance is doubted. Thus, the actual realization of the potential contribution of logistics outsourcing remains far less documented (Gadde and Hulthen, 2008), and its outcome continues to show mixed results. This doubtful performance may be attributed to lack of trust, commitment, satisfaction and strategy alignment amongst logistics outsourcing relationship partner firms which leave the quality of the relationship between these firms compromised. Johnston and Johnston (2006) argue that an outsourcing effort is destined to fail if it does not reflect the corporation’s strategy. Therefore, firms wishing to improve logistics performance are well advised to concentrate on formalizing selected process (Daugherty, et al, 1992).

Coordination theory (which is about how activities can be coordinated, and/or how actors can work together harmoniously) can be used to study how the logistics processes can be efficiently and effectively coordinated, controlled and managed to yield logistics performance excellence. Its practical relevance lies in the fact that it can be used in determining how logistics performance goals can be divided into actions, how these actions can be assigned to the various groups of actors in the logistics system or network, how logistics resources are allocated among the players and

how the information can be shared among the actors/players to help achieve the overall logistics goals. There is therefore need for strong linkages between suppliers and buyers and or other players involved in supply chain activities to support performance of organisations (Graeml and Peinado, 2009), and that of the overall supply chain. However, the theory may not be enough to explain logistics performance where 3PLs are involved. Rather, the collaborative theory has to play a complementary role. In Uganda, no such a study has been carried out with the view of providing a concretized analysis of these underpinning issues. This study examined the relationship between trust, commitment, satisfaction and strategy alignment and LORQ, and firm logistics performance in selected manufacturing and distribution companies in Uganda. The following were specific objectives of the study:

- [i] To examine the influence of trust between the LSP and the outsourcing firm on logistics outsourcing relationship quality;
- [ii] To examine the influence of commitment between the LSP and the outsourcing firm on logistics outsourcing relationship quality;
- [iii] To assess the influence of satisfaction between the LSP and the outsourcing firm on logistics outsourcing relationship quality;
- [iv] To assess influence of strategy alignment between the LSP and the outsourcing firm on logistics outsourcing relationship quality;
- [v] To assess the influence of logistics outsourcing relationship quality on logistics performance in the selected sectors; and
- [vi] To establish the influence of trust, commitment, satisfaction, and strategy alignment on logistics performance.

Literature Review

The Concept of Logistics Outsourcing

The term logistics outsourcing derives its impetus from a more generic term ‘outsourcing’ meaning ‘deciding to obtain certain the selected products from outside the firm. That is the process of handing over the planning, management and operation of a certain activity to an independent third party (Embleton, et al., 2000), further elaborated by Lysons (2003) as the strategic use of external resources to perform activities formally handled by internal staff and resources. It is a management strategy by which an organization outsources major non –core functions specialized on an efficient provider. Outsourcing occurs in two forms, first, when outsourced objects that were originally sourced internally, resulting from a vertical disintegration decision (Gilley and Rasheed, 2004); second, when the client sources object that although they have been/ not been completed in – house in the past they are within the client’s capabilities and hence, could have been sourced internally notwithstanding the decision to go outside (Van Mieghem, 2001). In the field of logistics, numerous works have been published (Sohail and Sohal, 2003) resulting in a host of definitions for the concept of logistics (Masson-Franzil, 2003) and the outsourcing phenomenon (Tage, 2000). In various studies (e.g., Colin and Paché, 1988; Halley, 1999; Paché, 1994; Samii, 2000) logistics is presented as a combination of physical and informational flows. Thus, it is defined as ‘the management and control of physical and informational flows either by internal means or by outsourced means along a chain from the input to the output encompassing all the operations of transport, stock, manufacturing, packaging, distribution and so on, carried out for the customer’s satisfaction and in optimized performance conditions for the company’ or ‘the process of planning, implementing, and controlling the efficient, effective flow and storage of goods, services, and related information from point of origin to

point of consumption for the purpose of conforming to customer requirements'. Logistics outsourcing means the organization letting all or part of its logistics operations to be carried out by the 3PL on its behalf. Although in practice several synonyms are often used for logistics outsourcing; "outsourcing", "third party logistics", or "contract logistics" (Larson and Kulchitskg, 1999), reviewing the definitions pointing at the concept (e.g. Langley, Dobrey, and Newton, 1997; Lieb, 1992; Lieb, Millen and Van wassenhove, 1993; Lieb and Randall, 1996; Murphy and Poist, 1998; Tage, 2000; Virum, 1993) leads to the definition of logistics outsourcing as the fact of entrusting all or part of the logistic chain, whose activities were previously performed in-house, to an external supplier on the long-run, with a potential transfer of resources and with an objective of performance.

Konstantinos and Spring (2007) describe "logistics outsourcing", "logistics alliances", "third party logistics", "contract logistics" and "contract distribution" as usable interchangeably. In this research we focus on the generalized understanding of the meaning and role of 3PLs which we achieve by extending the debate on understanding logistics outsourcing. Inline with this it can be noted that a 3PL is the contracted LSP (a firm from whom the services are outsourced). In practice 3PL providers are Freight forwarders (also referred to as International Freight Forwarders; with expertise that allows them to prepare and process the documentation and perform related activities pertaining to international shipments – arranging cargo movements to an international destination), Courier Companies (employed to deliver messages, packages, and mail), Integrating companies (offering subcontracted logistics and transportation services). Examples of 3PL companies may include (but not limited to) Kuehne and Nagel, Panalpina, DHL, FedEx, TNT N.V, UPS, DPEX, Aramex, SDV Transami, and Tibett and Britain. Hertz and Alfredsson (2003) describe four (4) categories of 3PL providers: [1] Standard 3PL provider (the most basic

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form of a 3PL provider –these would perform such activities as Pick and pack, warehousing, and distribution (the most basic functions of logistics)); [2] Service developer (these will offer their customers advanced value-added services such as: tracking and tracing, cross-docking, specific packing, or providing a unique security system); [3] the customer adapter (this comes in at the request of the customer and essentially takes over complete control of the company’s logistics activities) and [4] the customer developer (this is the highest level that a 3PL provider can attain with respect to its processes and activities, and it occurs when the 3PL provider integrates itself with the customer and takes over their entire logistics functions). According to Hertz and Alfredsson (2003), extensity of the tasks performed by the 3PL providers increases, while the number of customers decreases up the typology. This means that the standard 3PL provider has the highest number of customers but performs the least extensive tasks for them whereas a customer developer though has a few customers, will perform extensive and detailed tasks for them.

Trust, Commitment, Satisfaction and Strategy Alignment

Here we provide a review of the literature relating to the study variables. Conceptual inter-relationships are also presented.

Trust: trust has been defined as ‘confidence in the goodwill and competence of others and the expectation that others will reciprocate with honest efforts that are consistent with agreements if one cooperates (Yang and Sarah, 2006; Chen, Chen and Meindl, 1998; Das & Greng, 1998; Ring and Van de Yen, 1994). Mayer, Davis, and Schoorman (1995, p.712; see Jung (2008)) define trust as ‘the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor control that other party’’. In a social context, trust has several

connotations (McKnight and Chervary; 1996). The typical definition of trust follows the general intuition about trust and contains such elements as; [1] the willingness of one party (trustor) to be vulnerable to the actions of another party (trustee), [2] reasonable expectation (confidence) of the trustor that the trustee will behave in a way beneficial to the trustor, [3] risk of harm to the trustor if the trustee will not behave accordingly, and [4] absence of trustor's enforcement or control over actions performed by the trustee. Within the context of this research, the term 'trust' is defined in relation to the reliance on and confidence in a LSP [or 3PL (Mayer, Davis, and Schoorman 1995; Moorman, Zaltman, and Deshpande, 1992; Shaw 1997 cited by Sangam 2009)]. This is in line with Morgan and Hunt's (1994) conceptualization that trust exists when one party has confidence in an exchange partner's reliability and integrity. It is worth noting that the argument of Tompkins (2006:52) that "outsourcing requires giving up control of a business function and trusting others to handle that function for you", is very much prevalent in this element of trust. The outcome of trust, therefore, is the "firm's belief that another company (in this case the LSP) will perform actions that will result in positive outcomes for the firm as well as not take unexpected actions that result in negative outcomes" (Anderson and Narus, 1990).

Commitment: relates to the degree of willingness by the partners to continue in the relationship. Commitment is defined as an 'implicit or explicit pledge of relational continuity between exchange partners' (Dwyer, Schurr, and Oh, 1987, p.19 cited by Corsi, 2003). According to Katie (2003), commitment refers to the extent to which one party to a relationship believes that the relationship is worth spending energy to maintain and promote, thus the two critical dimensions of 'continuance commitment' and 'effective commitment'. Continuance commitment concerns with 'a certain line of action' whereas effective commitment is an emotional orientation. The

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'Commitment-trust' theory of relationship marketing (Morgan and Hunt, 1994) offers an explanation of one motive for relational behaviour. Commitment and trust are regarded essential because they lead directly to co-operative behaviors that are vital for long-term mutually beneficial relationships. In business to business relationships such as those between a service provider and a client, commitment is evident by investment decisions that seek to establish and maintain long-term mutually beneficial relationships (Beaton and Beaton; 1995). Morgan and Hunt (1994) observe that 'commitment and trust are key determinants of successful relationships because they encourage partners to: (1) work at preserving relationship investments by cooperating with exchange partners; (2) resist attractive short-term alternatives in favour of the expected long-term benefits of staying with existing partners, and (3) view potentially high risk action as being prudent because of the belief that their partners will not act opportunistically. Maltz and Ellram (1997) indicate that trust between firms is important when there is much at stake for the firms, especially when firms outsource all or part of their logistics functions and become dependent on 3PLs. According to Moore (1998), existence of trust in a relationship reduces the perception of risk associated with opportunistic behavior and allows each party to believe that its needs will be fulfilled in future by actions taken by the other party. Empirical studies indicate that trust and relationship commitment are important elements in successful logistics alliances, and in fact as argued by LaLonde and Cooper (1989), some outsourcing relationships evolve over time into alliances as mutual trust develops between a buyer and third party. Bowersox (1989) also suggests that as an outsourcing relationship matures, high levels of dependency and trust build as both parties focus on a long-term orientation.

Satisfaction: the term satisfaction has been defined in various contexts, although in relationship studies less attention has been given to develop a

concrete definition which is contextual. Borrowing from definitions put forth in different studies we propose to define relationship satisfaction as the degree to which a party to a relationship has a positive affective orientation towards the relationship. From the customer's perspective, the determinants of relationship satisfaction are thought to include such factors as customer orientation, trust, length of relationship, expertise and ethics (Price, 1997). The author provides further evidence on the cognitive antecedents of relationship satisfaction based on evidence from the financial sector. We now extend the debate to the LORs where we define relationship satisfaction as the degree to which a logistics outsourcing firm has a positive affective orientation towards the outsourcing relationship it has with the LSP firm. Party firms to an outsourcing relationship are envisaged to enjoy their relationship more if they are satisfied that their relationship meets their needs and expectations.

Strategy Alignment: strategy alignment can be used to mean many things. For example, Carter and colleagues, (2009) define alignment as referring to common vision, goals, purpose and objectives across organisations, functions and processes in the supply chain/logistics network. For purposes of this research the term is used in two (2) perspectives: (1) to mean that the logistics outsourcing relationship partners direct their strategies towards the relational strategies so as to bring about mutuality in the realizable goals, and (2) to mean that the logistics outsourcing strategy goals are derived from the strategies of the relationship partners. According to Carter and colleagues, (2009), alignment ensures that there is consistent in the direction and objectives as plans and decisions are made.

Logistics Outsourcing Relationship Quality

Although the concept of relationship quality has been attracting increasing research interest as a meaningful construct that attempts to capture the

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essential features of the relationship between an enterprise and its customers (Walter, et al. 2003), there is still no consensus on a precise definition of the term. According to Deepen (2007), the true drivers of outsourcing performance lie in the relationship between service providers and their customers. Forrest (2008) posits that LORs are normally on a contract basis involving a long-term commitment. It is argued that ‘without trust and the willingness to collaborate, it is impossible to achieve aligned, consistent decision-making and actions required for the integrated supply chain, and that the nature and quality of the relationship (degree of interdependence or closeness) between parties is of crucial importance concerning both standardized outsourcing (Smyrlis, 2006) and more advanced outsourcing (Lei, 2007). The main determinant of the outcome of logistics outsourcing concerns the relationship between the outsourcing firm and the LSP (Gadde and Hulthén, 2008). Therefore, the relationship between the buyer and service provider is important for performance of the logistics arrangement. According to Crosby et al (1990), relationship quality represents an over all assessment of strength of a relationship and the extent to which it meets needs and expectations of the parties based on a history of successful or unsuccessful encounters or events. Henning-Thurau and Klee (1997) stated that relationship quality can be understood as the degree of appropriateness of a relationship to fulfill the needs of the customer.

Implications for Logistics Performance

A broader understanding of logistics performance is necessary before an analysis can be made on how logistics outsourcing links up to it. Garland, Trevor and Lenart (1994) argued that defining and measuring performance in logistics is a difficult enterprise, for both researchers and managers. Realistically, logistics performance is a subset of the larger notion of organizational performance. Mentzer and Konrad (1991) reviewed

performance measurement practices from an efficiency and effectiveness perspective. Effectiveness refers to the extent to which an objective has been achieved while efficiency is the degree to which resources have been used economically in pursuit of the objective. Sink et al (1984) defined and studied seven dimensions: effectiveness, efficiency, quality, productivity, quality of work life, innovation and profitability/budgetability, in order to capture their conception of what performance means. Garland, Trevor and Lenart (1994), define logistics performance incorporating other dimensions. They indicate that logistics performance ought to be defined considering the following dimensions: Sales growth, cost efficiency, job security and working conditions, profitability, keeping promises, low loss and damage, social responsibility, fair prices for inputs, on-time delivery, flexibility, product availability and customer satisfaction. According to Krizman (2000) logistics outsourcing performance is usually defined as the mutual logistics activities of both partners involved in the long term relationships. By joining forces, both partners will improve efficiency, profitability, and customer service. Stank, et al. (2003) proposed a construct of three dimensions (operational, cost and relational performance) as antecedents of customer satisfaction with outsourcing arrangements.

Literature existing on the subject of logistics outsourcing as a logistics management strategy provides empirical evidence that logistics outsourcing has the potential to significantly drive an organization's logistics performance; which may ultimately influence the overall organizational performance, most especially if critically analyzed in terms of performance improvements attainable in the organization's specific logistics activities. Turning non-core functions over to external suppliers enables companies to leverage their resources, spread risks and concentrate on issues critical to survival and future growth (Sink and Langley, 1997). Indeed it is an 'important means for improving supply chain effectiveness' (Maloni and Carter, 2006; Gadde and Hulthen; 2008). According to Persson and Virum (2001), logistics

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outsourcing has a high potential to bring about the elimination of infrastructure investments; access to world processes, products, services or technology; improved ability to react quickly to changes in business environment; better cash flow; reducing operating costs exchanging fixed costs with variable costs; access to resources not available in own organization. Cammons (1931), Coase (1937) and Williamson (1975) argue that companies outsource when costs of in-house activities are higher than buying products and services on market.

Conceptual Framework

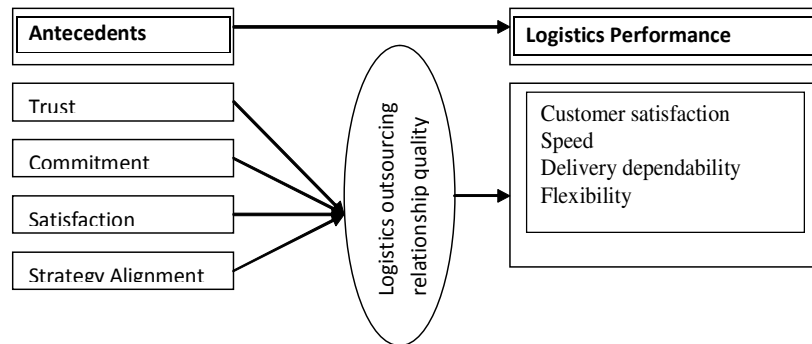


Fig. 1: *Conceptual Framework. Source: developed by the authors based on the works of Green, Whitten and Inman (2008), Schramm-Klein and Morschett (2006), Wisner (2003), Johnston. and Johnston (2006)*

The conceptual framework draws on works of several authors: Green, Whitten and Inman (2008), Schramm-Klein and Morschett (2006), Wisner (2003), and Bowersox, et al. (2000). The authors contend that logistics performance can be tremendously driven by outsourcing relationships. Research indicates successful logistics outsourcing relationships are best told by the way outsourcing firms interact with those they outsource from;

which is influenced by the level of trust and commitment of the interacting firms. Logistics outsourcing relationships and their quality are influenced by a number of factors including trust, commitment, relationship satisfaction (Corsi, 2003). In this study we introduce strategy alignment, which we borrow from the work of Johnston and Johnston (2006).

Research Methodology

Research Design

The study was cross-sectional and adopted a triangulation of descriptive, analytical, quantitative and qualitative study designs. The descriptive and analytical designs were preferred because they helped in developing a deep understanding of the variables involved and critical analysis of the relationships subsisting between them. The Quantitative and Qualitative designs were relevant because the research used both numerical and non-numerical data to arrive at highly reasonable conclusions.

Study Population and Sample Size

The study population comprised of 84 (eighty four) firms from the two selected sectors: (1) Alcoholic beverages, wines and spirits, and (2) Chemicals, paints, foam and rubber products registered with Uganda Manufacturer's Association (UMA Business Directorate 2010/11, pp. 35-39 and pp. 71-76) . The two sectors were chosen for the reason that they are involved in more demanding yet less value adding logistics activities (warehousing, transportation, returns management, packaging and labeling among others), and that outsourcing for logistics services is more evident and traceable. The sample size was scientifically determined using the principles in Krejcie and Morgan (1970) table. According to these authors (ibid.) for a population of 80 a sample of 66 is appropriate, and for a

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population of 85 a sample of 70 is appropriate. Therefore, given a population of 84 firms, the sample of 68 was considered appropriate. A two-stage sampling procedure was used. First, an proportionate stratified sampling was used to establish the number of respondent firms that were to be targeted from either sector. Second, simple random sampling procedure was used to identify the actual respondent firms to be issued with the research questionnaire. All sixty-eight (68) firms were issued with the questionnaire. Thirty four (34) useable questionnaires were returned. Four (4) firms indicated they were not outsourcing their logistics operations to LSPs. Therefore, effective response rate was 53.125 percent.

Table 1: *Sample Size and Sample Distribution*

<i>Category</i>	<i>Population (N)</i>	<i>Sample (n*)</i>
Alcoholic beverages, wines and spirits	23	19
Chemicals, Paints, Foam and Rubber products	61	49
Total	84	68

Source: *UMA Business Directorate 2010/11, pp. 35-39 & pp. 71-76*

* Where $n_1 = (N_1/N) \times n$, and N_1 is study population for stratum 1 (firms dealing in alcoholic beverages, wines and spirits) and N_2 is study population for stratum 2 (firms dealing in chemicals, paints, foam and rubber products).

Data Sources and Collection Methods

Both Primary and Secondary data, and therefore, Primary and Secondary data collection methods were used. For Primary data collection, the administered questionnaires were used, while literature review was applied for secondary data collection.

Measurement of Research Variables

Trust: For purposes of this research, ‘Trust’ was measured in terms of the three dimensions: Integrity, Competence and Dependability suggested by Katie (2003). Where integrity is defined in terms of the extent to which organizations believe that their LSPs are fair and just or (can) act fairly and justly, competence is defined as the extent to which organizations believe that their LSPs have the ability to do what they promise to do (it includes extent to which the service provider is seen competitive enough to survive in the market/industry). Dependability is considered to be the extent to which organizations believe that their LSPs will do what they promise – act consistently and dependably.

Commitment: this relates to the degree of willingness by partners to continue in the relationship; and shall be measured by relationship continuity (Morgan and Hunt, 1994).

Satisfaction: this relates to the degree to which a party to the relationship has a positive affective orientation towards the relationship.

Strategy Alignment: strategy alignment can be used to mean many things. However, for purposes of this research it will be used in two perspectives: (1) to mean that the logistics outsourcing relationship partners direct their strategies towards the relational strategies so as to bring about mutuality in the realizable goals and (2) to mean the logistics outsourcing strategy goals are derived from the strategies of the relationship partners.

Logistics Outsourcing Relationships quality were studied using relationship closeness. According to Floh, A. (2010), the quality of relationships can best be measured by relationship closeness which is defined as the degree of interdependence between the partners to the relationship (Kelly, et al. 1983).

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Logistics Performance was measured using ‘Customer Satisfaction, Delivery speed, Delivery dependability and Delivery Flexibility (Green, Whitten and Inman 2008, also suggested by Bowersox, et al. 2000).

Validity and Reliability of the Research Questionnaire

The validity and reliability of the constructs are tested to ensure that the measurement was accurate (Ramdani and Kawalek, 2012). Validity refers to how accurately the construct reflects what it intends to measure, and reliability refers to consistency of obtained results. Within the context of this study, validity was ensured through consultations with experts and pilot testing of the research questionnaire with targeted respondent firms before carrying out the main study. The questionnaire was reviewed by two (2) senior researchers and two (2) professionals in the area of logistics, distribution and supply chain management. This facilitated the correcting of any ambiguities in measurements as well as capturing correctly the concepts used in this study. Reliability was tested using the ‘Cronbach’s Alpha Coefficient (Lee Cronbach 1951) to assess the extent to which the questions contained in the Questionnaire could be dependable. The Cronbach Alpha coefficients (in Table 2) for all the aspects were well above the acceptable minimum value of 0.7 (Nunnaly, 1978), confirming reliability and consistency of the research constructs.

Table 2: *Cronbach Alpha Coefficients*

	<i>Cronbach Alpha</i>
Trust	.757
Commitment	.762
Satisfaction_1	.791
Strategy Alignment	.753
LORQ_1	.766
Logistics performance	.761

Source: *Authors’ own analysis*

Presentation and Analysis of the Study Findings

Hereunder we present findings on characteristics of respondent firms and respondents as well as results of the correlation and regression analyses.

Characteristics of Respondent Firms

Thus, 26 (76.5%) of the respondent firms were dealing in Alcoholic beverages, wines and spirits, and 8 (23.5%) in chemicals, paints, form and rubber products. Majority of the respondent firms were from the alcoholic beverages, wines and spirits sector.

Firm Annual Turnover

7 (20.6%) of the respondent firms had their annual turnover exceeding UGX 1,000,000,000, 8(23.5%) had their annual turnover within the range of UGX 250,000,001 –UGX 1,000,000,000. 6 (17.6%) were between UGX 50,000,001-UGX 100,000,000, 3 (8.8%) between UGX 20,000,001-UGX 50,000,000, 5 (14.7%) between UGX 5,000,001-UGX 20,000,000. only 2 (5.9%) had turnover UGX 5,000,000.

Characteristics of the Respondents; Age, Professional and Academic Qualifications and Experience

Findings show that 10 (29.4%) of the respondents were between 20-30 years, 19 (55.9%) were between 31-40 years, 4 (11.8 %) between 51-60 years, and only 1 (2.9%) was above 60 years. Majority of the respondents were between 31-40 years. Majority (i.e. 21 representing 61.8%) of the respondents were first (bachelor) degree holders. 5 (14.7%) were holders of a masters degree while only 5 (14.7%) and 3 (8.8%) were holders of undergraduate diplomas and certificates respectively. Accordingly, Table 8 shows that only 9 (26.5%) had their academic attainments in procurement and logistics management. Majority (10

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representing 29.4%) were in accountancy while 3 (8.8%) were specialised in marketing but working under the procurement and/or logistics function. Results in Table 9 show that only four (4) respondents had CIPS professional qualification, eight (8) had CIM, one (1) had CILT, eleven (11) had ACCA and nine (9) had other professional qualifications apart from those mentioned. 7 (20.6%) of the respondents had worked in their organisations for a period of over 10 years, 12 (35.3%) for a period of 6-10 years, 13 (38.2%) had worked for 1-5 years. Only 2 (5.9%) of the respondents had been working with their organisations for less than 1 year. Thus, majority (19 representing 55.9%) had worked with their organisation for a period of more than 5 years.

Activities being Outsourced by the Studied Firms

The study sought to establish the extent to which the selected manufacturing and distribution firms in the studied sectors have outsourced their logistics activities to LSPs. Descriptive statistics including frequencies and percentages were used to analyse the findings. Results (see Table 3) show majority of the studied firms [i.e. 27 (twenty-seven) representing 79.41% of the 34 studied firms) outsourced their inbound transportation (this involved transportation from provider to firm warehouse/store). Then 24 (twenty-four) firms representing 70.59% outsourced clearing and forwarding (including valuation, verification and customs clearing) to logistics service providers. Findings also show that the least outsourced logistics activities include ocean freight forwarding – consolidation [outsourced by 8 (23.53%) of the firms], value adding logistics [outsourced by 7 (20.59%) of the firms], returns management, and parcel distribution [each outsourced by 6 (17.65%) of the firms], value adding services [outsourced by 3 (8.82%) of the firms]. Only 2 (5.89%) of the firms outsourced their cross docking operations to logistics service providers. The respective LSPs per firm are provided in the last row of the Table.

Table 3: Logistics Activities Outsourced by Studied Firms

Logistics services outsourced to logistics service providers	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Inbound transportation (from provider to warehouse)	√		√	√	√	√	√	√	√		√	√		√	√	√	√	√	√	√
Outbound transportation (from warehouse to distributors or customers)	√	√				√		√				√			√					√
Returns management (picking, transporting, e.t.c....)												√	√	√	√					√
Parcel distribution			√	√			√		√			√								√
Value adding logistics (labeling, packaging, e.t.c....)						√												√	√	√
Value adding services (order management, customer services, e.t.c....)						√														√
Warehousing/storage	√			√		√	√		√				√	√		√				
Cross docking			√				√													
Air freight forwarding			√		√						√					√		√	√	√
Ocean freight forwarding (full container loads)			√			√	√	√	√	√				√		√		√	√	√
Ocean freight forwarding: consolidation			√			√		√	√	√						√		√	√	√
Clearing & forwarding (valuation, verification, and customs clearing e.t.c....)		√	√		√	√		√	√	√	√			√		√		√	√	√
Logistics service providers	#	A, B, C	D, E	A, F, G	A, F	H, I	J, F, K	L	L, H, F, M, I	#	I, F	N, O	#	F	P	#	#	#	Q, C	#

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Continuation ...

	21	22	23	24	25	26	27	28	29	30	31	32	33	34	Total	%
<i>Logistics services outsourced to logistics service providers</i>		√	√	√	√	√	√		√			√		√	27	79.41
Inbound transportation (from provider to warehouse)	√											√	√		11	32.35
Outbound transportation (from warehouse to distributors or customers)											√		√		06	17.65
Returns management (picking, transporting, e.t.c...)															06	17.65
Parcel distribution											√		√		07	20.59
Value adding logistics (labeling, packaging, e.t.c...)	√														03	8.82
Value adding services (order management, customer services, e.t.c...)																
Warehousing/storage			√							√			√		11	32.35
Gross docking															02	5.89
Air freight forwarding				√	√	√	√		√				√		13	38.24
Ocean freight forwarding (full container loads)			√			√			√	√				√	15	44.12
Ocean freight forwarding; consolidation															08	23.53
Clearing & forwarding (valuation, verification, and customs clearing e.t.c...)	√	√	√	√	√	√	√	√	√	√				√	24	70.59
Logistics service providers	S, C, T, U	V	A, B	X	H, F, Y	F, Y, Z	B, F, Z	#	AA	#	#	#	#	AB		

Source: Authors' own analysis

Key to Table 3

Companies/organisation

- 1 = Organic chemicals (U) Ltd
- 2 = Wine Garage/CAFÉ' KAWA
- 3 = Parambot Breweries Ltd

- 4 = Sadolin Paints (U) Ltd
- 5 = Ikuda Chemical Distributors
- 6 = Henkel Polymer Co. (u) ltd
- 7 = AMBAR International
- 8 = Twiga Chemical Industries (U) Ltd
- 9 = Balinda Chemicals

- 10 = Desbro Chemicals
- 11 = Bukoda Chemicals Industries
- 12 = HS Laboratory supplies
- 13 = Chemiquip
- 14 = CRESTFOAM (U) limited
- 15 = LEDO wine (U) ltd
- 16 = Vita Foam (U) Ltd
- 17 = Law Sam Chemicals

- 18 = 3R International ltd
- 19 = Ecolab East Africa (U) Ltd

- 20 = BPC Chemicals (U) Ltd

- 21 = Crown Building & Paints Ltd
- 22 = AN. Ddamulira ltd

- 23 = Mega Industries ltd
- 24 = Supreme Chemical Lab & Industry Supplies
- 25 = AARCE Distillers ltd
- 26 = East African Seed (U) ltd
- 27 = King Albert Distillers ltd
- 28 = Chemical Distributors ltd
- 29 = TUFFOAM (U) ltd
- 30 = SHUMUKU Investments
- 31 = Kwagala Stores
- 32 = Mogas
- 33 = Nile Breweries
- 34 = Sure Chemical Laboratory Supplies

Area of business (operations)

- importers and traders of industrial chemicals
- Goods & Services –SME, wines and spirits
- Manufacturing and distribution of beer (Moonberg, Moonberg premium, Rock stoot, Nyota larger)
- Manufacturing and supply of paints
- Distribution of industry and laboratory chemicals
- manufacturing and distribution of chemicals
- Distributors of wine and spirits
- Trading in Agro-chemicals & veterinary products
- selling and distribution of industrial chemicals, glassware and laboratory chemicals for schools & other organisations
- dealers in laboratory chemicals
- re-packaging of agricultural chemicals
- School laboratory supplies, chemicals & equipments
- dealers in laboratory detergents
- Manufacturing and distributing mattresses and other forms
- Manufacturing wine and spirits.
- Manufacturing and selling mattresses and other foams
- Manufacturing and dealing in cleaning detergents and chemicals
- manufacturing of alcoholic beverages
- manufacturers and dealers in industrial cleaning detergents and cleaning solutions
- manufacturers and dealers in Neptune paints, vanishes and Glues
- manufacturers and dealers in paints
- distributors of school laboratory chemicals, equipments and detergents
- manufacturers and dealers in foam products

- Dealers in lab & industry chemicals
- Manufacturing and packaging of Vodca, Gene & other spirits
- Agro-chemicals
- Manufacturers of and dealers in Wines & Spirits
- dealers in chemicals
- manufacturers and distributors of mattresses and other foams
- production of metal fabrications
- Distribution of chemicals
- dealers in chemical and petroleum products
- Manufacturers and distributors of beer and other spirits
- Retail –in chemicals from suppliers to clients in smaller quantities.

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Logistics service providers

A = Interfreight	O = Easy Bus
B = Pacific International Logistics	P = Nyange Transporters
C = TNT	Q = Roy Parcel
D = Southern Enterprises (SE)	R = FLITLINKS
E = Fedex	S = Baba Haulers
F = DHL	T = A.J. Printing & packaging
G = Mukwano	U = Swift
H = P & O	V = DAS
I = Pacific International Logistics (PIL)	Y = Open Economy
L = Excel Freight	Z = Molium
M = TIRUPATI	AA = Kenfreight Multiple
N = Intercontinental clearing	# = Unnamed

Correlation Analysis

The Pearson Correlation Coefficient was used and results are as shown in Table 4. The relationships between the independent variables and the dependent variables were found to be strong and significant at 0.01 level [trust and LORQ ($r = .648^{**}$, $p < .01$), commitment and LORQ ($r = .695^{**}$, $p < .01$), satisfaction and LORQ ($r = .568^{**}$, $p < .01$) and strategy alignment and LORQ ($r = .755^{**}$, $p < .01$); and LORQ and logistics performance ($r = .785^{**}$, $p < .01$)]. The relationships between the independent variables and logistics performance were also found strong and significant at the same of level of confidence.

Hierarchical Regression

We ran a hierarchical regression with the view of determining the variation in the mediating variable (LORQ) that is explained by the independent variables of trust, commitment, satisfaction and strategy alignment and the results obtained are shown in Table 5. In Model 1; we intended to test whether trust significantly predicted LORQ. The model was significant ($F = 34.83$, $\text{Sign.} = 0.00$, $p < 0.01$, $\Delta R^2 = 0.42$), implying that trust predicts 42 percent variance in LORQ. In model 2 when we introduced

commitment, the model remained significant ($F=22.85$, $\text{Sig.} =0.00$, $pd^*0.01$, $\Delta R^2=0.12$), but with the predictive power improving by 12%. The new model indicates that trust and commitment can predict 54% variance in LORQ. In model 3, when satisfaction was introduced, there was a further 2% increase in the predicting power of the studied independent variables, and still the model which remained significant ($F=16.60$, $\text{Sig.} =0.00$, $pd^*0.01$, $\Delta R^2=0.02$) at 1% level significance depicted that trust, commitment and satisfaction would explain 56 percent variance in LORQ. In model 4, strategy alignment was introduced and still the model remained significant ($F=16.71$, $\text{Sig.} =0.00$, $pd^*0.01$, $\Delta R^2=0.13$), but with 13 % increase in the predicting power of the independent variables, implying that the four (4) studied independent variables (trust, commitment, satisfaction and strategy alignment) together predicted 70 percent variance in LORQ.

Meanwhile a simple regression of logistics outsourcing relationship quality on logistics performance yielded a significant model ($F=68.512$, $\text{Sig.}0.000$, $pd^* 0.05$, $\Delta R^2 =0.509$) implying that logistics outsourcing relationship quality significantly predicted logistics performance. From the model it is evident that logistics outsourcing relationship quality explains up to 50.9 percent variance in logistics performance. A forward step-wise regression was subsequently ran with the view of determining variation in logistics performance explained by the independent variables acting jointly and to test for the mediating effect of logistics outsourcing relationship quality. The results are presented in Table 7. In Model 1, we intended to test whether or not the independent variables acting together significantly predicted logistics performance. The resultant model was significant ($F=32.974$, $\text{Sig.} =0.000$, $pd^*0.01$, $\Delta R^2=0.677$), implying that the independent variables (trust, strategy alignment, commitment and customer satisfaction) can predict 67.7 percent variance in logistics performance. In Model 2 when we introduced LORQ, the model remained significant ($F=26.450$, $\text{Sig.} =0.00$, $pd^*0.01$, $\Delta R^2=0.004$) but the predictive power improved by 0.4% to 68.1%. Thus, the predictive power of the model is

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improved with the inclusion of LORQ as a level 2 variable. However, the predicting power of trust and strategic alignment as independent variables was weaker though remained significant implying a full mediation, while commitment and customer satisfaction became insignificant implying a partial mediation effect. On the basis of the analysis we conclude that of the studied independent variables (trust, commitment, satisfaction and strategy alignment), if acting jointly, can predict up to 67.7% variance in logistics performance (and with the inclusion of LORQ) they predict 68.1 % variation in logistics performance, implying that only 31.9 percent variance in logistics performance can be explained by other factors. The mediating role of logistics outsourcing relationship quality is also observed.

Table 4: Correlations

		<i>Trust</i>	<i>Commitment</i>	<i>Satisfaction_1</i>	<i>strategy</i>	<i>LORQ_1</i>	<i>Logistics Performance</i>
trust	Pearson Correlation	1	.678**	.582**	.598**	.648**	.722**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	34	34	34	34	34	34
commitment	Pearson Correlation	.678**	1	.561**	.542**	.695**	.690**
	Sig. (2-tailed)	.000		.001	.001	.000	.000
	N	34	34	34	34	34	34
satisfaction_1	Pearson Correlation	.582**	.561**	1	.532**	.568**	.613**
	Sig. (2-tailed)	.000	.001		.001	.000	.000
	N	34	34	34	34	34	34
strategy	Pearson Correlation	.598**	.542**	.532**	1	.755**	.718**
	Sig. (2-tailed)	.000	.001	.001		.000	.000
	N	34	34	34	34	34	34
LORQ_1	Pearson Correlation	.648**	.695**	.568**	.755**	1	.785**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	34	34	34	34	34	34
Logistics performance	Pearson Correlation	.722**	.690**	.613**	.718**	.785**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	34	34	34	34	34	34

** . Correlation is significant at the 0.01 level (2-tailed). N=34

Source: *Authors' own analysis*

Table 5: Hierarchical Regression Analysis with Logistics Outsourcing Relationship Quality as the Dependent Variable

	Model 1	Model 2	Model 3	Model 4	Co linearity					
	Std error	Std error	Std error	Std error	Tolerance VIF					
Constant	1.14**	0.24	1.01**	0.22	0.83**	0.27	0.70**	0.23	Na	na
Trust	0.65**	0.10	0.33	0.13	0.26	0.14	0.09	0.12	1.00	1.00
commitment			0.47	0.10	0.42**	0.11	0.33**	0.09	0.54	1.85
customer satisfaction					0.18	0.15	0.07	0.13	0.61	1.64
strategy alignment							0.481**	0.10	0.58	1.74
R	0.65		0.74		0.75		0.83		Na	na
R square	0.42		0.54		0.56		0.70		Na	na
Adjusted R square	0.40		0.51		0.52		0.65		Na	na
F-statistics	34.83		22.85		16.60		16.71		Na	na
sig	.000		0.00		0.00		0.00		Na	na
R-square change	0.42		0.12		0.02		0.13		Na	na
F-change statistics	23.14		8.19		1.41		12.66		Na	na
Sig F change	0.00		0.01		0.25		0.00		Na	na

Note: n=34, **regression is significant at 0.01 level standardized coefficients are reported.

Source: Authors' own analysis

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Table 6: *A Simple Regression Analysis with Logistics Performance as the Dependent Variable*

	<i>Model 1</i>	<i>Std error</i>	<i>Co linearity</i>	
			<i>Tolerance</i>	<i>VIF</i>
Constant	0.268	0.231		
LORQ	0.837	0.101	1.000	1.000
R	0.714			
R square	0.509			
Adjusted R square	0.502			
F-statistics	68.512			
Sig.	0.000			
R-square change	0.509			
F-change statistics	68.512			
Sig F change	0.000			

Note: n=34, **regression is significant at 0.05 level

Source: *Authors' own analysis*

Table 7: Forward Step-wise Regression Analysis with Logistics Performance as the Dependent Variable

	Model 1	Std error	Model 2	Std error	Co linearity Model 1	Co linearity Model 2	Tolerance	VIF
Constant	0.191	0.186	0.106	0.209				
Trust	0.252**	0.105	0.238**	0.107	0.400	0.390	2.502	2.561
commitment	0.167**	0.078	0.143	0.082	0.547	0.442	1.828	2.263
satisfaction	0.206**	0.101	0.190	0.102	0.493	0.584	2.028	1.714
strategy alignment	0.258**	0.081	0.212**	0.096	0.601	0.389	1.665	2.572
LORQ			0.136**	0.153		0.301		3.321
R	0.823		0.825					
R square	0.677		0.681					
Adjusted R square	0.656		0.655					
F-statistics	32.974		26.450					
sig	0.000		0.000					
R-square change	0.677		0.004					
F-change statistics	4.162		0.792					
Sig F change	0.049		0.377					

Note: n=34, ** regression is significant at 0.01 level, regression is significant at 0.5 level, standardized coefficients are reported.

Source: Authors' own analysis

Logistics Performance Pmprovements Attributed to Logistics Outsourcing

The study further examined probable improvements that logistics outsourcing has brought about in specificity to selected logistics performance aspects including lead time (normal, minimum and maximum lead time), number of orders processed and delivered on time, number of orders cancelled due to low capacity, number of orders delivered late, number of customer complaints registered, number of customer complaints handled, number of accidents registered, volume lost to accidents, transportation cost per order delivered as percentage of transportation costs. Findings obtained were analysed using combined means and standard deviations in a comparative manner i.e. considering the situation where LSPs are used and situation where LSPs are not used.

Table 8: *Combined Means (Descriptive Statistics)*

	<i>N</i>	<i>Mini- mum</i>	<i>Maxi- mum</i>	<i>Mean</i>	<i>Std. Deviation</i>
Normal delivery lead time -from order entry until delivery (number of days)	34	1	5	3.17	1.376
Minimum delivery lead time – from order entry until delivery (number of days)	34	1	5	2.71	1.250
Maximum delivery lead time –from order entry until delivery (number of days)	34	1	6	3.60	1.226
Average number of orders processed & delivered per month	34	1	6	2.38	1.292
Average number of orders cancelled due to low capacity	34	1	6	3.00	1.073
Average number of orders delivered on time	34	1	44	7.37	6.858
Average number of orders delivered late (past indicated time)	34	1	6	3.13	1.028
Average number of complaints (for delivery delays) received per year	34	1	3	1.53	.543

	<i>N</i>	<i>Mini- mum</i>	<i>Maxi- mum</i>	<i>Mean</i>	<i>Std. Deviation</i>
Number of accidents registered per year	34	1	3	2.25	.557
Average annual volume (units) lost to accidents	34	1	1	1.00	.000
Average annual volume (value in UGX) lost to accidents	34	1	4	3.00	.426
Transportation costs per order delivered as a %age of total transportation costs.	34	1	4	2.00	.651
Normal delivery lead time -from order entry until delivery (number of days)	34	1	6	3.58	1.391
Minimum delivery lead time – from order entry until delivery (number of days)	34	1	5	3.30	1.465
Maximum delivery lead time –from order entry until delivery (number of days)	34	1	6	4.05	1.290
Average number of orders processed & delivered per month	34	1	6	3.29	1.701
Average number of orders cancelled due to low capacity	34	1	6	3.50	.870
Average number of orders delivered on time	34	1	6	3.73	1.183
Average number of orders delivered late (past indicated time)	34	1	4	2.17	.455
Average number of complaints (for delivery delays) received per year	34	1	6	2.15	.916
Average number of complaints handled	34	1	3	1.93	.626
Number of accidents registered per year	34	1	3	2.29	.574
Average annual volume (units) lost to accidents	34	2	4	3.00	.246
Average annual volume (value in UGX) lost to accidents	34	2	4	3.33	.284
Transportation costs per order delivered as a % age of total transportation costs.	34	1	5	1.63	.848
Valid N (listwise)	34				

Source: Authors' own analysis

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Findings (in Table 8) show that *normal delivery time* is longer with use of services of the LSPs (Mean=3.58) than what it was without using the services of the LSPs (Mean=3.17), with an almost equal standard deviation of obtained in either cases; implying that the normal lead time under both situations 'without and with the use of LSP services' is within the range of 21 -30 days. The *Minimum delivery time (from order entry until delivery =number of days)* has reduced [the statistics show a mean =of 3.17 for the statement of 'without using the services of a LSP' and a mean =2.71 for the statement of 'with the use of the services of a LSP' with the respective value of the standard deviation is (d= 1.376) and (d =1.250)]. Meanwhile, the *maximum delivery time (from order entry until delivery =number of day)* increased following [a mean =of 3.60 (and d=1.226) for the statement of 'without using the services of a LSP' and (a mean =4.05, d=1.290) for the statement of 'with the use of the services of a LSP' implying that maximum delivery time ranges from 21 - 30 days (before use of the services of a LSP) to 31-40 days (with the use of the services of a LSP).

There is also an improvement in terms of *average number of orders processed and delivered per month* (as supported by the statistics which show that for the statement 'without using the services of a LSP' (Mean =2.38, =1.292), and for the statement 'with the use of the services of a LSP' (Mean =3.29, d=1.701), *average number of orders delivered late (past indicated time)* [supported by the statistics which show that the average number of orders delivered late (past indicated time) for 'without using the services of LSPs' was within the range of 1 (Minimum) and 6 (maximum) (Mean=3.13) and for 'with the use of the services of the LSPs' was within the range of 1 (minimum) and 4 (maximum) (Mean =2.17).] but a decline is noted in *number of orders cancelled due to low capacity* [findings shat that the average number of orders cancelled due to low capacity is higher when using the services of LSPs (Mean =3.50) than situation when the services of the LSPs are not used (Mean =3.00)], *average number of orders delivered on time* [findings show that the average number of orders for 'without using the services of LSPs' was

within the range of 1 (Minimum) and 4 (maximum) (Mean=7.37) and for 'with the use of the services of the LSPs' was within the range of 1 (minimum) and 6 (maximum) (Mean =3.37) implying inefficiency in the delivery processes is more evident with the firms' use of LSPs and *average number of complaints registered* [there is a notable shift from an average number of complaints for delivery delays from 1-3 (with Mean =1.53) to 1-6 (Mean =2.15), implying that with the use of the services of a LSP more complaints for delivery delays are registered compared to when the services of the LSPs are not used], an increase in the *average annual volume (units) lost to accidents* [Average annual volume (units) lost to accidents for the situation 'without using the services of the LSPs' (Mean =1.00, i.e. 1-20 units) was lower than the average annual volume lost to accidents for the situation 'with using the services of the LSPs' (Mean =3.00, i.e. 21-30 units), implying a performance decline].

Reduction in *average annual volume (UGX) lost to accident* [without using services a LSP (Mean =3.00, d =.426) the average annual volume (in UGX) lost to accidents is lower than the average annual volume (in UGX) lost to accidents when using services of a LSP (Mean 3.33)]. *Transportation costs per order delivered as a %age of total transportation costs have also reduced* from an estimate of 11-20%. (Mean =2.00) to 1-10 % (Mean 1.63) with the adoption of the Logistics outsourcing strategy (i.e. when the services of the LSPs are used). For the *average number of complaints handled and Number of accidents registered per year* [statistics show that for both situations of 'without using the services of the LSPs' and 'with using the services of the LSPs' the average number of complaints handled have more or less remained the same i.e. within the range of 1 (Minimum) and 3 (Maximum) with the respective mean values of 1.50 and 1.93 for 'without using LSP services' and 'using the services of LSP' in either cases.

Discussion of the Study Findings

Our finding on the relationship between trust and LORQ as well as the relationship between commitment and LORQ is in line with the work of

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Moore (1998) who found out that trust and relationship commitment are important elements in logistics alliances. It is also consistent with La Londe and Cooper (1989)'s suggestion that some outsourcing relationships evolve over time into alliances as mutual trust develops between a buyer and a 3PL. Findings on the relationship between trust, commitment, satisfaction, strategy alignment and LORQ are in line with the work of Gattorna, Ogulin and Selen (2003) who found out that companies tend to outsource clusters of functions with the objective of achieving improvements in their logistics performance. On the basis of Gattorna et al's view and our findings we posit that there is a strong positive relationship between trust, commitment, satisfaction, strategy alignment and LORQ, and that the ultimate impact of logistics outsourcing on logistics performance will greatly depend on the LORQ as measured by relationship closeness. Our findings further show that LORQ and firm logistics performance are positively correlated and that with the logistics outsourcing strategy adoption a number of performance improvements are evident in the studied firms: reduction in minimum delivery times, increase in the average number of orders processed and delivered per month, reduction in average number of orders delivered late, reduction in average number of complaints (for delivery delays) registered, reduction in the volume of goods (both units and UGX) lost to accidents, and reduction in transportation costs per order (to 1-10%). This is an indication that logistics outsourcing has positively contributed to the firms' performance, which is consistent with the general view that logistics outsourcing relationships if successful result into logistics performance improvements.

Conclusion

On the basis of our research findings and in line with what other authors of relational studies have said in conducted studies we conclude that [1] trust, commitment, satisfaction and strategy alignment are significant predictors of LORQ, [2] logistics outsourcing relationship quality significantly influence logistics outsourcing relationship quality and therefore logistics performance,

[3] the relationship between the independent variables and the dependent variable is mediated by logistics outsourcing relationship quality, and [3] a holistic approach to the logistics outsourcing strategy is necessary if the strategy is to be successful and to result into the achievement of the desirable outcomes.

Implications of the Study

Theoretical Implications

Our study adopted the constructs of trust, commitment, satisfaction which have been studied in relationship marketing studies (Morgan and Hunt, 1994). Although efforts have been evident to deal with these constructs in logistics outsourcing relationships (e.g. Moore, 1998) a grounding theory to link the constructs to logistics performance has not yet resulted. Our study attempts to explore the constructs and link them to the logistics performance aspect, but does not generate a well grounded theory that explains the intractability that may be viewed evident. Secondly, the role of trust, relationship commitment and satisfaction is not adequately explained by a one way relationship assessment, especially when dealing with issues of logistics outsourcing relationships which may involve a two-way information exchange, coordination, and trust. Also the elements of trust, commitment and satisfaction may be viewed as both antecedents and effects of relationship quality. Our study and therefore the findings only focus on these elements as antecedents in that case. Furthermore, we clearly note that we undertook our study on logistics outsourcing in the manufacturing and distribution sectors in a developing country where there is limited knowledge about logistics outsourcing practice and its performance as well as strategic implications. This paper provides both a practical and theoretical evaluation of logistics outsourcing as a concept and a business strategy practice. This study contributes towards a detailed understanding of logistics outsourcing, LORs and logistics performance in Uganda.

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Managerial and Practical Implications

Our research findings confirm to the general preposition that logistics outsourcing results into firm logistics performance improvements. We contribute towards the general understanding that trust, commitment, satisfaction and logistics strategy alignment are strong antecedents for successful LORs, which we study using the relationship quality construct as measured by relationship closeness. It should be noted however, that we provide an understanding that although all the studied four variables are positively correlated to LORQ, they do not contribute equally to the relationship quality and therefore, their aggregated contribution can not be attainable in the absence of one or more variables.

Limitations of the Study and Directions for Future Research

The limitations of our study are numerous. These may affect the applicability of the findings presented in this paper. First, we considered logistics outsourcing from the perspective of the buyer firm, leaving out the supplier firm. This would render our study of LORs incomplete since a relationship manifests two side parties (buyer and seller). Future research should focus on LORs from the seller (LSPs) perspective in order to have their role well integrated in practical research analyses. Second, our study focused on firms in the selected manufacturing and distribution sectors of Alcoholic beverages, wines and spirits, and Chemicals, paints and rubber products. These sectors have specific logistics operations that may not be common to others (e.g. pharmaceutical, food and service sectors). Therefore, generalisability of the study findings may not be assumed.

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