

Performance perceptions among supply chain members: *A triadic assessment of the influence of supply chain relationship quality on supply chain performance*

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Abstract

Purpose: A good supply chain relationship quality (RQ) is a crucial precursor for any stable exchange relationship which ensures relationship continuity. Although empirical research suggests that strengthening RQ improves supply chain performance (SCP), most studies have focused on dyadic business relationships. To fully understand the relational behaviour of a firm embedded in a supply chain, we need to look beyond the dyad into triads. This paper investigates how SCP is influenced by RQ in a triadic agribusiness supply chain.

Design/methodology/approach: Evidence is drawn from a quantitative survey of 150 agribusiness firms in the maize supply chain in Uganda. Data was collected in triadic context from 50 direct supply chains each composing of a supplier, focal firm and customer. Multi-group structural equations modelling (SEM) is used to assess the differences in perception of the influence of RQ on SCP amongst the supply chain members.

Findings: Results provides empirical support for the positive influence of RQ on SCP. SEM reveals differences in perception between the upstream and downstream and amongst the supply chains members. While focal firms consider conflict, coercive power, commitment and trust to be important; suppliers considered trust, dependency and non-coercive power; and customers considered trust, dependency and coercive power as important RQ factors affecting SCP performance.

Practical implications: For agribusiness managers to enhance business performance there is need to cultivate strong and mutual relationship with supply chain members. It is also

important to know how to handle conflicts so as to realise mutual benefits from supply chain relationships

Originality/value: Our paper is novel in that it assesses SCP in a triadic context in an agribusiness sector from a developing country context. We use novel approaches including analysis of a triad, and multiple group SEM to assess perceptions of each supply chain member's

Keyword: Supply chain performance, Supply chain relationship quality, Structural equations modelling, Agribusiness, Multi-group analysis

Paper type: Research paper

1.0 Introduction

The general agreement from previous studies in supply chain management (SCM) is that practices in supply chain relationships have shifted from dyadic perspectives, where relationships are seen as isolated phenomena to a relationship perspective which emphasizes interdependence, connectedness and intimate relations (Gellynck & Molnár, 2009; Mentzer et al., 2001; Molnár, Gellynck, & Weaver, 2010). Therefore, a good supply chain relationship quality (RQ) is a crucial precursor for any stable exchange relationship that ensures relationship continuity. Although several studies have analysed the influence of RQ on supply chain performance (SCP) (Chang, Cheng, & Wu, 2012; B. Fynes, de Búrca, & Mangan, 2008; Molnár et al., 2010; Nyaga, Whipple, & Lynch, 2010); there still remains some critical gaps in SCM literature that deserves critical attention.

Firstly, most previous studies have focused on business-to-business (b2b) or business-to-consumer (b2c) relationships in dyadic settings (Athanasopoulou, 2009; Choi & Wu, 2009; Molnár et al., 2010; Nyaga et al., 2010). Analysing the supply chain at a dyadic level does not bring out the underlying dimensions of a supply chain (Kühne, Gellynck, & Weaver, 2013; Mentzer et al., 2001; Molnár et al., 2010; Wu, Choi, & Rungtusanatham, 2010).

Secondly, most studies used a focal firm approach to collect and analyse data. This raises the possibility of inflated empirical relationships which limits the applicability of the findings at supply chain level (B. Fynes et al., 2008; Molnár et al., 2010; Narasimhan & Jayaram, 1998; Rungtusanatham, Choi, Hollingworth, Wu, & Forza, 2003; Whipple, Lynch, & Nyaga, 2010; Wu et al., 2010). Measuring of supply chain level performance is important because i) it is important for gauging supply chain members contribution; ii) it helps to rationalize the continuation of participation by supply chain members; and iii) it is the basis

for sharing joint net benefits by supply chain members. Therefore, to fully understand the relational behaviour of a firm embedded in a supply chain, we need to look beyond the dyad and into triads for answers (Choi & Wu, 2009; Rungtusanatham, Salvador, Forza, & Choi, 2003; Wu et al., 2010).

Thirdly, even though empirical research suggests that strengthening RQ improves SCP, empirical evidence from the agribusiness sector is generally lacking (Boniface, 2012). It is against this background that this paper focuses on supply chain members' perception of how their supply chain partners contribute to their individual performance as well as to supply chain level performance. We do this by examining a triadic supply chain (consisting of a supplier, a focal firm and a customer) using a matched triad approach. Specifically, we assessed (i) SCP implications of RQ, and (ii) and how the SCP implication of RQ varies amongst the supply chains members.

The rest of this paper is structured as follows: the next section presents the theoretical perspectives and constructs, this is followed by a description of the methods used, analysis, presentation of the results, discussions and conclusions. Finally, the limitations are discussed and directions for future research are given.

2.0 Theoretical perspectives and hypothesis

This paper explores the influence of RQ on SCP. To facilitate our understanding of this relationship in a triadic context, we apply the social network theory. Social network theory suggests that firms strive for closer relationships with other supply chain members when mutual benefits can be achieved. These benefits can be derived from inter-dependencies or complementarities or when access to knowledge, resources, markets or technology is thought (Wynstra, Spring, & Schoenherr, 2015). Since the 1990s, social capital theory has become an important branch within the social network theory (Holma, 2012; Trienekens, 2011). Social capital increases the efficiency of an action and, in the form of high levels of trust social capital reduces opportunism and costly monitoring processes.

The social network theory therefore posits supply chain relationships as a resource that provides mutual performance benefits to supply chain members. Our research proposition suggests that good relationship amongst supply chain members have performance benefits to individual supply chain members as well as to the performance of the whole supply chain. (Figure 1). The social network theory is therefore relevant to this paper and has been successfully applied in previous triadic supply chain studies (e.g. Holma, 2012; Peng, Lin, Martinez, & Yu, 2010; Trienekens, 2011; Wuyts, Stremersch, Van den Bulte, & Franses,

2004). Hence, the application of the social network theory will be useful in advancing conceptual and practical understanding of the performance implications of RQ in a triadic context.

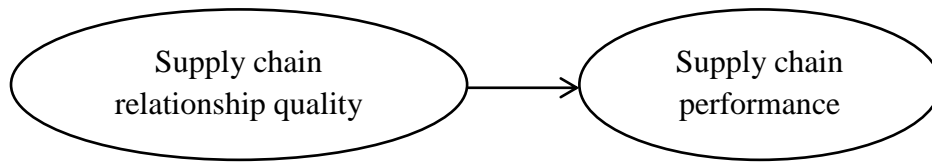


Figure 1: *Conceptual framework*

2.1 Supply chain performance (SCP)

Extant literature suggests that supply chain relationships create opportunities for the firms to experience improved performance (B. Fynes et al., 2008; Molnár et al., 2010; Wu et al., 2010). We define SCP as the operational measures that improve for each supply chain member, as well as for the whole supply chain, as a result of their participation in a supply chain relationship (Gagalyuk, Hanf, & Hingley, 2013; Molnár et al., 2010; Nyaga, Lynch, Marshall, & Ambrose, 2013; Whipple et al., 2010). The perception of the contribution of a supply chain member to SCP was measured by four constructs of efficiency, responsiveness, quality and supply chain balance.

Efficiency is a measure of how well resources are utilized, and include parameters such as logistic costs and profits (Aramyan, Lansink, Van Der Vorst, & Van Kooten, 2007; Neely, Gregory, & Platts, 1995). Logistic cost refers to the operating and opportunity cost items that can be influenced by logistic decisions and integration of management practices and activities throughout the supply chain. Profits refer to the net positive gains from investments or business undertaking.

Responsiveness is the measures of speed/rate of providing the requested products. Responsiveness is measured in terms of lead time and customer complaints (Aramyan et al., 2007; Molnár et al., 2010). Lead time is the total amount of time which elapses between sending/getting request and delivery/receiving of goods or services (Gunasekaran, Patel, & Tirtiroglu, 2001). Customer complaints are registered complaints from customers about products or services.

Quality consist of product and process quality. Product quality consists of safety and attractiveness while process quality is measure by environmental friendliness (Aramyan et al., 2007; Chen & Paulraj, 2004; Neely et al., 1995).

Supply chain balance is defined as the distribution of risks and benefits as well as supply chain understanding. Risks and benefits distribution refers to the extent to which business risks and compensations are shared amongst supply chain members. Supply chain understanding refers to the extent to which supply chain members understand each other's products and process, roles and responsibilities (Molnár et al., 2010).

2.2 Supply chain relationship quality (RQ)

RQ is the overall assessment of the strength of a relationship and the degree to which the needs and desires of the supply chain members are satisfied, as well as the depth and the atmosphere of an exchange relationship (Crosby, Evans, & Cowles, 1990; Dwyer, Schurr, & Oh, 1987; Johnson, 1999; Naudé & Buttle, 2000; Srinivasan, Mukherjee, & Gaur, 2011; Woo & Ennew, 2004). RQ was measured by seven constructs of trust, commitment, information sharing, coercive and non-coercive power, dependency and conflict.

Trust between supply chain members has been widely suggested as an important indicator of RQ (Gellynck, Vermeire, & Viaene, 2007; Kühne et al., 2013; Lu, Feng, Trienekens, & Omta, 2008; Molnár et al., 2010). Trust is defined as an supply chain member's belief that another supply chain member will perform actions that will result in positive outcomes for the supply chain member, as well as not take unexpected actions that would result in negative outcomes for the supply chain member (Anderson & Narus, 1990). Micheels and Gow (2011) argue that trust is often not present in many agricultural supply chains, due to the adversarial nature and short-term orientation of spot-market transactions. Trust has been hypothesised to positively influence supply chain performance (Fynes, Voss, & de Burca, 2005; Terpend & Ashenbaum, 2012). We therefore hypothesise that:

H1: Trust positively influences supply chain performance

Supply chain management literature defines commitment as an implicit or explicit pledge of relational continuity between supply chain members (Dwyer et al., 1987). It refers to the willingness of supply chain members to exert efforts on behalf of the relationship. Committed supply chain members are less likely to exit the relationship than the less committed supply chain members and consequently commitment reduces the transaction costs (TC) of doing business amongst supply chain members (Cechin, Bijman, Pascucci, & Omta, 2013). Commitment therefore ensures a future orientation in which supply chain members attempt to build a relationship that can stand un-foreseen problems (Mohr & Spekman, 1994; Monczka, Petersen, Handfield, & Ragatz, 1998). As an important dimension of RQ, Hennig-

Thurau, Gwinner, and Gremler (2002) consider commitment as an important indicator in successful relationships. Previous studies (Jap & Ganesan, 2000; Krause, Handfield, & Tyler, 2007; Prahinski & Benton, 2004) have shown that commitment results into improved supply chain performance.

We therefore hypothesise that:

H2: Commitment positively influences supply chain performance

Information sharing refers to the extent to which critical, often proprietary formal and informal information is shared between supply chain members (Anderson & Narus, 1990; Mohr & Spekman, 1994). Kwon and Suh (2004) argue that information sharing is essential in a trust building process since sharing of critical information enables firms to develop an understanding of each other's routines and develop mechanisms of conflict resolution, which signals that a supply chain member can be trusted. Consequently, information sharing is critical in ensuring that partners realise the benefits of a collaboration (Min et al., 2005). Previous studies have suggested that information sharing positively influences supply chain performance.

We therefore hypothesise that:

H3: Information sharing positively influences supply chain performance

The bases of power can be classified as coercive and non-coercive. Coercive power represents a power struggle driven by force. Non-coercive power increases the value of the relationship through team support and common interests as well as promoting collective goals (Jonsson & Zineldin, 2003). Coercive power occurs when a supply chain member's power enables the supply chain member to affect another supply chain member's share of the benefits of collaboration for its own benefits. As the power hold of a supply chain member over another supply chain member increases, the dependency of the weaker supply chain member increases (Batt, 2004). The use of non-coercive power involves rewards and assistances, while the use of coercive power involves punishments (Geyskens & Steenkamp, 2000). The use of power has been identified as one of the most important antecedent of SCP (Geyskens, Steenkamp, & Kumar, 1999). It is postulated that the use of non-coercive power by a supply chain member should increase SCP. On the other hand, the use of coercive power by a supply chain member should decrease performance (Zhao, Huo, Flynn, & Yeung, 2008).

We therefore hypothesis that:

H4a: Coercive power negatively influences supply chain performance

H4b: Non-coercive power positively influences supply chain performance

Dependency is an indicator of the extent to which a supply chain actor depends on his/her supply chain partner (Jonsson & Zineldin, 2003). The dependency as well as the interaction between the supply chain actors is influenced by the atmosphere of the specific environment in which they operate and co-operate. Terpend and Krause (2015) argue that high levels of dependency results in improved supply chain performance. Consequently, we hypothesise that:

H5: Dependency positively influences supply chain performance

Conflict represents the overall level of disagreement in supply chain partnership. As such conflict is determined by the frequency, intensity and duration of disagreements. Conflict in goals, interests, and sharing of benefits can compromise SCP (Weaver, 2009). Conflict has been postulated to positively influence performance. We therefore hypothesise that:

H6: Conflict positively influences supply chain performance

3.0 Methods

3.1 Data collection

Data for this paper was collected from the maize supply chain in Uganda between April 2014 and February 2015. A combination of judgmental and snowball sampling techniques was used to identify survey respondents. The inclusion criteria were that the firm is a micro-small-and-medium-enterprise (MSME) dealing with maize or maize product(s). Focal firms were purposively identified based on their involvement in the maize supply chain as either a processor or a wholesaler; and their willingness to participate in the study was sought before the interviews. We interviewed business owners or their appointed representatives at their business premises. During the interviews, each focal firm was asked to identify one of their suppliers and customers. To complete the supply chain, the supplier and the customer nominated by the focal firm were followed up and asked to answer the same questions regarding the focal firm that nominated them.

In this way, a total of 150 valid questionnaires were realized, representing 50 maize supply chains i.e. 50 suppliers, 50 focal firms, and 50 customers. Due to the nature of our sampling method (matched triad approach), and the focus of our study on one supply chain, it is possible that our sample never represented the entire MSMEs population in Uganda. Therefore our sample size was not selected to represent the underlying MSMEs population, consequently, generalization to the entire population is not feasible. Similar studies (Kühne,

Gellynck, & Weaver, 2015; Wu et al., 2010) has shown the difficulties in achieving representativeness using this approach.

Most (73%) of the responding firms were small enterprises, which have been in business operations for more than five years. Majority (59%) were involved in marketing of maize as flour. The firms were involved in the production, processing and marketing of maize in form of flour, feeds, seeds and grains. Table 1 summarizes the characteristics of the firms interviewed.

Table 1: Respondents profiles (%)

Categorization	Supplier	Focal firm	Customer
<i>Business age</i>			
≤ 5 years	10	12	10
6-10 years	22	24	32
11-20 years	62	50	46
>20 years	6	14	12
<i>Business size*</i>			
Micro	32	16	22
Small	68	78	77
Medium	-	6	4
<i>Product type</i>			
Flour	14	82	82
Feeds	50	4	2
Seeds	-	14	12
Grains	36	-	4

- *1-4=micro, 5-50=small, >50=medium sized enterprises
- *Classification based on number of employees (UIA, 2015)

3.2 Measurements and scaling

The survey questionnaire was structured in three sections. The first section examined the supply chain member characteristics. The second section examined the RQ perception of the supply chain members using 22 statements representing seven RQ constructs (trust, commitment, information sharing, coercive power, non-coercive power, dependence and conflict). The third section assessed the SCP perception of the supply chain members using 11 statements belonging to four SCP constructs (efficiency, quality, responsiveness and chain balance). All items were measured on a 5-point Likert scale (1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree).

A matched triad approach was used in the process of data collection. Therefore, each supply chain considered had a triplet of supply chain members (supplier, focal firm, and customer). Each item asked these supply chain members to indicate their subjective assessment of their supply chain members. Therefore, each focal firm provided item scores

with respect to their individual chosen supplier (F_S) and customer (F_C). Similarly, each nominated supplier provided item score that indicated their perspective on the focal firm (S_F); and each nominated customer provided item scores that indicated their perspective on the focal firm (C_F). These perspectives are summarized in Figure 2 below.

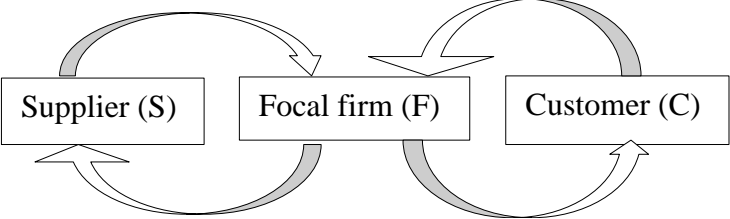


Figure 2: Relationship directions considered in data collection and analysis

4.0 Analyses

Prior to data collection, the content validity of the constructs used to measure SCP and RQ was supported by previous literature and pre-tests. After data collection, a number of tests were performed to assess the validity and reliability of the constructs

4.1 Exploratory factor analysis

Because the constructs were being used in a different context from which they have been developed and tested, we first conducted an exploratory factor analysis (EFA) with principal component analysis (PCA) to assess the unidimensionality of the constructs (Narasimhan & Jayaram, 1998; Zhao et al., 2008). The EFA was done without specifying the number of factors. Varimax rotation with Kaiser normalization was used to clarify on the factors (Janssens, Wijnen, De Pelsmacker, & Van Kenhove, 2008). Some measurement items were dropped either due to cross loadings or low factor loadings on the different components in an iterative process. Cronbach alpha was then calculated for each factor extracted so as to assess the internal consistency of the extracted components.

For RQ, six factors were extracted with Eigenvalues greater than 1.0, explaining 64.89% variations in RQ (Table 2). Because of low Cronbach alpha value, suggesting poor internal consistency amongst items, we adopted a one-item solution for non-coercive power (Table 2). The new RQ constructs generally maintained the original construction except for factor one. Factor one (trust) combined the original trust and information sharing items plus one commitment item.

Table 2: Summary of factor analysis for RQ

Construct	Factor loading	Eigenvalues	Cronbach's alpha
TR		2.83	0.76
TR1	0.71		
TR2	0.74		
TR3	0.53		
CM4	0.62		

IS1	0.55		
IS2	0.49		
IS4	0.61		
CM		1.94	0.68
CM1	0.77		
CM2	0.80		
CM3	0.65		
DEP		1.15	
DEP2	0.92		
NCP		1.29	0.28
NCP1	0.67		
NCP2	0.86		
CP		2.08	0.91
CP1	0.91		
CP2	0.90		
CON		1.1	
CON2	0.81		

KMO=0.77; Bartlets tests of sphericity: $X^2=826.95$; $p=0.000$

For SCP, EFA yielded a four factor solutions with eigenvalues greater than 1, explaining 60.17% variation in observed SCP construct. Some items were dropped due to low factor loadings. Because of low Cronbach alpha values, suggesting poor internal consistency amongst items, we adopted a one-factor solution for responsiveness and chain balance . The new SCP constructs generally maintained their original dimensions as can be observed from (Table 3).

Table 3: Summary of factor analysis for SCP

Construct	Factor loading	Eigenvalues	Cronbach's alpha
<i>Efficiency</i>		1.79	0.58
EFF1	0.81		
EFF2	0.49		
EFF3	0.76		
<i>Quality</i>		1.58	0.52
RES2	0.53		
QUA1	0.75		
QUA2	0.72		
<i>Responsiveness</i>		1.45	0.45
RES1	0.68		
RES3	0.78		
<i>Chain balance</i>		1.19	0.24
BAL1	0.76		
BAL2	0.70		

KMO=0.67; Bartlets tests of sphericity: $X^2=219.11$; $p=0.000$

4.2 Structural equations modelling (SEM)

Based on the results of EFA, we computed summative scores for each of the SCP constructs (efficiency, Quality, responsiveness, supply chain balance) and for each of the RQ constructs (trust, commitment, coercive power, non-coercive power, dependency conflict). The summative scores were calculated as means of total item scores for each construct. This was done so as to assess how each RQ construct (trust, commitment, non-coercive power, coercive power, dependency, conflicts) contribute to performance (efficiency, quality, responsiveness, supply chain balance) of each supply chain member as well as to supply chain level performance. To test our overall hypothesis, aggregate scores was generated by adding the summative scores of trust, commitment, non-coercive power, coercive power, dependency and conflict and divided the figure by six to generate the aggregate for RQ; and adding the summative scores of efficiency, quality, responsiveness and chain balance and divided it by four to generate the aggregate scores for SCP.

The second stage of analyses was to generate the standardize path estimates of the structural models. We did this by analysing the data from four perspectives (pooled, F-S, F-C, C-F, S-F) using multi-group structural equation modelling (SEM) in AMOS 22. The multi-group SEM was used to ascertain whether the specified paths in the causal structure are equivalent across the different chain members as well as on the upstream and downstream of the supply chain, hence allowing for group comparison (Deng & Yuan, 2015). A structural model was built based on the modified measurement constructs using the maximum likelihood method (MLE). The goodness of fit indices for the structural model indicated that model was acceptable, with $X^2=24.03$, d.f=10, CFI=0.98, RMSEA=0.06, SRMR=0.005, which are within acceptable threshold values.

5. Results

Our results provide empirical support for the general hypothesis that RQ has a positive effect on SCP (Table 4).

Table 4: General performance perception among supply chain members

Parameters	Perspectives				
	Pooled	S_F	F_S	F_C	C_F
Estimates	0.28	0.23	0.14	0.40	0.35
Standard error	0.12	0.29	0.17	0.18	0.23
C.R	4.09***	1.68	0.96	3.10**	2.60**

Specifically, we observed seven significant paths: with trust positively influencing quality and responsiveness; commitment positively influencing responsiveness, coercive power

negatively influencing quality; dependency positively influencing efficiency and quality; and conflict negatively influencing responsiveness and positively influencing chain balance (Figure 3)

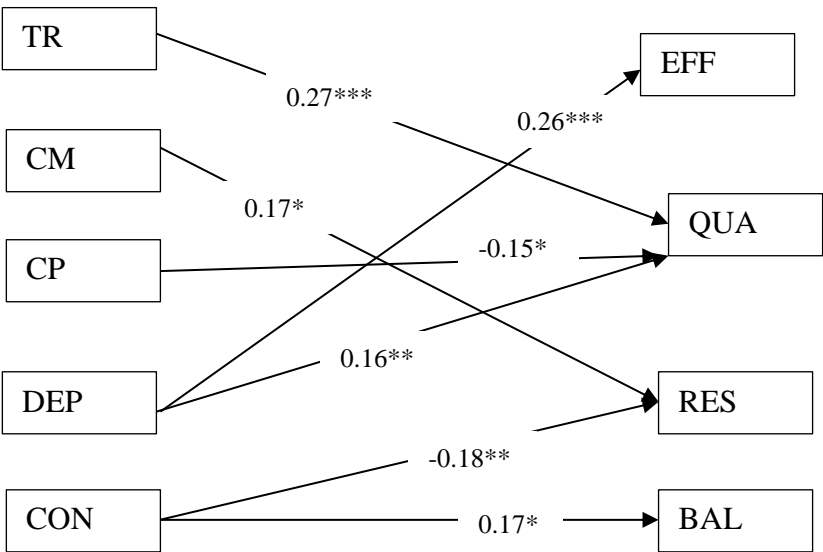


Figure 3: Standardized path estimates for the pooled sample
 Note: *, **, ***, indicates significance at 0.05, 0.01 and 0.00 respectively
 TR=trust, CM=commitment, CP=coercive power, DEP=dependency, CON=conflict, EFF=efficiency, QUA=quality, RES=responsiveness, and BAL=chain balance

To understand whether this relationship varies amongst supply chain members, as well as on the upstream downstream of the supply chain, we conducted a multi-group sub-group SEM on the specific causal paths. Results revealed that there are significant differences in perception between the upstream and downstream of the supply chain as well as amongst the supply chain members (Table 5).

Table 5: Standardized path estimation for sub-group specific estimates

Paths and perspectives		Estimates	Std.error	C.R.
<i>F_S perspective</i>				
Conflict	→ Quality	-0.29	0.08	-2.21*
Conflict	→ Responsiveness	-0.30	0.14	-2.32*
Conflict	→ Supply chain balance	0.28	0.17	2.13*

Commitment	→	Responsiveness	0.31	0.36	2.19*
Coercive power	→	Quality	-0.30	0.06	-2.15*
Coercive power	→	Supply chain balance	0.41	0.14	2.88**
<i>S_F perspective</i>					
Trust	→	Quality	0.57	0.15	4.23***
Trust	→	Responsiveness	0.60	0.16	4.13***
Trust	→	Supply chain balance	0.39	0.22	2.53**
Dependency	→	Efficiency	0.39	0.09	3.44***
Non-coercive power	→	Efficiency	-0.41	0.11	-3.29**
Non-coercive power	→	Supply chain balance	-0.31	0.02	-2.36*
<i>F_C perspective</i>					
Trust	→	Quality	0.29	0.12	2.5*
Conflict	→	Supply chain balance	0.29	0.12	2.24*
<i>C_F perspective</i>					
Trust	→	Quality	0.59	0.11	4.88***
dependency	→	Quality	0.38	0.06	3.03**
Coercive power	→	Responsiveness	-0.40	0.08	-2.79**

*, **, *** indicates significance at 0.05, 0.01 and 0.00 respectively

On the upstream, while focal firms considered conflict, commitment and coercive power as important factors determine their performance with respect to their suppliers; suppliers considered trust, dependency and non-coercive power as important factors. On the downstream, focal firms considered trust and conflict as important factors determining their performance, while customers considered trust, dependency and coercive power as important in determining their performance. It is very clear from these results that supply chain members exhibit perceptual differences amongst themselves.

5.0 Discussions

The measurement of supply chain level performance has attracted a lot of interest recently in supply chain management literature. This paper contributes to this discussion by looking at the supply chain members' perception of how their relationships with supply chain partners contribute to their individual performance as well as the performance of the whole chain. We use data from 50 direct supply chains, each composing of a supplier, a focal firm and a customer. This conceptualization goes beyond the scope of most previous studies that often collect and analyses data from a single supply chain member's perspective using a dyadic approach. The shift in analysis from dyad to triad as well as multiple group analysis, looking at individual supply chain member's perspectives, further adds a new dimension to supply chain management literature. A further contribution of this paper lies in the fact that it provides insights into SCP from an agribusiness supply chain in a developing country context.

As far as measurement of SCP and RQ is concerned, our results provide a general supports for the existing measurement construction. However, we find evidence that the

construct for measuring trust includes information sharing. This suggests that sharing of accurate and timely information amongst supply chain members is an indication of trust amongst supply chain members. This result finds support in literature on trust in agribusiness which suggest that trust allows supply chain members to be confident in their interpretation of market information from other supply chain members (e.g. Micheels & Gow, 2011).

Looking at the pooled sample, our results show that RQ has a positive and significant effect on SCP. This confirms findings from previous studies (Kühne et al., 2013; Molnár et al., 2010; Schiefer, Fritz, Ziggers, & Henseler, 2009). This suggests that by developing and engaging in good relationships, supply chain members can improve SCP. Therefore while previous studies identified empirical support for the performance implications of RQ, our findings extend this with regards to agribusiness supply chains using a triadic approach.

Generally, relationships are perceived to be better between the focal firm and the customer (downstream), than between the supplier and the focal firm (upstream). This can be explained by the fact that on the downstream, there are more formal business organizations as compared to the upstream. Consequently, supply chain members would prefer to do business with well-known and registered supply chain members. This finding is contrary to that reported by Reynolds, Fischer, and Hartmann (2009) who found that relationship was felt better at the farmer-processor level than the processor-retailer level in the German milk supply chain.

On the upstream, trust, commitment, coercive power, non-coercive power, dependency and conflict were the most important RQ attributes that influenced SCP (Table 5). While the directions of the path estimates were generally as expected, the relationship between conflict and supply chain balance, coercive power and quality, and non-coercive power and efficiency and chain balance is worth noting. While conflict had a positive effect on supply chain balance, it had a negative effect on responsiveness. Existing literature suggest that looking for solutions to critical issues (conflict) should result in improved SCP (Molnár et al., 2010). In our case, this is only true for balanced distribution of risks and benefits (chain balance) and not for responsiveness.

Focal firms perceived the existence of conflict with their suppliers to positively contribute to chain balance, while negatively contributes to quality and responsiveness. The positive influence of conflict on chain balance finds support in previous studies on food supply chains by Molnár et al. (2010). This because searching for solution to critical issues should result into better understanding of each other (chain balance), hence improved supply chain performance. However, the negative effect of conflict on responsiveness and quality is

counter intuitive. This results can be interpreted in light of the fact that there are no formal governing mechanism in the maize supply chain in Uganda. As such, supply chain members engage in a one-to-one interaction with each other. Consequently, rules are set in an ad hoc manner and there is bound to be disagreements with each other. Consequently, the existence of conflict could be a reason for a supply chain member to default on quality requirements as well as timely delivery of required products.

Similarly, focal firms perceive the use of coercive power to positively affect chain balance while negatively affecting quality. The use of power has been generally hypothesized to have a negative effect on SCP. However, our results suggest that in agribusiness supply chains where there are minimal or no formal governance mechanisms, the use of coercive power will results into a balanced distribution of risk and benefits.

From the suppliers' perspectives, trust was the main factor contributing to improved SCP. This is in line with previous studies which suggests that trust positively influence SCP (e.g. B. Fynes et al., 2008). However, the negative influence of non-coercive power on SCP is counter intuitive. Previous studies such as Terpend and Ashenbaum (2012) and Arend and Wisner (2005) suggest that the use of non-coercive power leads to better networking and hence improved SCP. However, a similar result was obtained by Kühne et al. (2013) who found that the use of non-coercive power was associated with decreased SCP. This suggests that the use of rewards may not be an effective means of ensuring conformance to expectations amongst supply chain members.

Looking at the downstream, there is clear evidence that trust positively influences SCPs, particularly quality. In agribusiness supply chains, empirical research have shown that trust is very important in ensuring quality of the products (Lindgreen, 2003; Lindgreen, Hingley, Trienekens, Kottila, & Rönni, 2008). Similar to the upstream, focal firms believe that the presences of conflict with their customers positively influence chain balance. On the customer's side, trust, dependency and coercive power are the significant RQ attributes that contribute to their improved SCP. Of particular interest is the positive and significant influence of dependency to the performance of suppliers and customers. This suggests the exercise of power-dependence between focal firms and their customers. A higher dependence is equivalent to being promised an increased reward, as such this will increase the customers motivation to perform well because it seeks to receive the reward and secure the motivation in the long run(Terpend & Krause, 2015).

6. Conclusions

Our results provided evidence that relationships are bi-directional and the perceptions vary amongst supply chain members. Additionally, this paper offer support to the use of a triadic approach in supply chain analysis in the agribusiness sector. This paper gives empirical insights into SCP perception differences amongst supply chain members as well as the association between particular performance and relationship attributes. The paper contributes to knowledge with respect to the role of RQ in influencing SCP in agribusiness SMEs from a developing country context. Our methodology incorporates novel approaches such analysis of a triad, and multiple group SEM to assess perceptions of each supply chain member's perspectives. Results underline the importance of RQ in SCP by showing that better RQ leads to improved SCP. Our results also highlight the differences in perception amongst supply chain members. For instance, while focal firms perceive the existence of conflict and coercive power to significantly influence their individual performance with respect to the supplier, suppliers perceive that trust and non-coercive power are important when dealing with their focal firms.

The main managerial implication arising from this paper is that to enhance SCP, managers of agribusiness need to cultivate strong and mutual relationship with supply chain members. Particularly supply chain members should establish mutual trust amongst themselves as this positively influences SCP. It is also important that managers knows how to handle conflicts with supply chain members as this could negatively affect supply chain performance, especially in the absence of formal governing mechanisms. The existence of dependency suggest that market leaders should use their to leverage benefits to themselves as well as to the other supply chain members.

Limitations and future research

This study only focuses on one agribusiness supply chain in one country, therefore, these findings can only be taken as a first indicator of the SCP in Ugandan. Consequently, generalisation of these results to the entire MSMEs population should be done cautiously. Future studies could confirm these results using datasets covering from more than one agribusiness supply chain. Such studies could also compare differences in RQ perception in the different supply chains. This study did not consider the different typologies of transaction (e.g. contracts, spot market) along the supply chain. Looking at this dimension could provide an understanding on whether the nature of relationships varies depending on the nature of transaction. Future studies could expand could consider the different transaction typologies and understand if this affects the nature of relationships. Additionally, As concerns our

determinants, our results highlight the role of some constructs of RQ and SCP but because of our small sample size, our results deserves further considerations in a similar contexts with a larger sample size.

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