

Understanding Behavioural Aspects in Horizontal Purchasing Collaboration in Developing Countries: an Empirical Survey

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Summary

In a large scale survey among 107 organizations, we tested the effects of behavioural aspects on horizontal purchasing collaboration in a developing country. The survey shows that the behavioural aspect affective commitment contributes more to collaboration than normative and instrumental commitment. The study recognises competences and critical resources of collaborating partners as important determinants of trust in the collaborative initiative. A critical minimum mass in terms of behavioural aspects is also suggested for meaningful collaborative results.

Keywords: Horizontal purchasing collaboration; behavioural aspects; developing countries

1. Introduction

Horizontal purchasing collaboration is the cooperation between two or more organizations by pooling and/or sharing their purchasing volumes, information, and/or resources. It is a popular practice in the public sector in many countries, because of its benefits, which include sharing information, reducing procurement costs, learning from each other, bundling purchasing volumes, and using scarce resources efficiently (Nollet and Beaulieu, 2005; Schotanus, 2007). Despite these benefits, developing countries and Uganda in particular, have hardly adopted this practice.

Previous research indicates that behavioural aspects may play an important role in the explanation of this phenomenon (Boddy et al., 2000). But this research has been mainly undertaken in the developed countries context. It may not be relevant in the developing world (Meyer, 1997) and in the Ugandan context. For example few links exist between collaborating partners in developing countries than in developed counterparts (Voordijk, 1999). Whereas collaboration issues in developed countries tend to centre around sharing benefits, in developing countries issues are about how to get additional benefits. The conceptual equivalence of behavioural aspects in developing countries is likely to be different from developed countries (Atkinson and Butcher, 2003).

It is not clear what the precise role of behavioural aspects is in horizontal purchasing collaboration in developing countries (Boddy et al., 2000). In addition, it is not known whether these behavioural aspects can be influenced in a positive way.

The main objective of this article is to understand the effects of behavioural aspects on (stimulating) horizontal purchasing collaborative initiatives in developing countries.

2. Literature review

2.1 Horizontal purchasing collaboration

Horizontal purchasing collaboration is the operational, tactical, and/or strategic cooperation between two or more organisations in one or more steps of the purchasing process by pooling and/or sharing their purchasing volumes, information, and or resources in order to create symbiosis (Schotanus, 2007). Several authors (e.g. Bakker et al., 2008; Nollet and Beaulieu, 2005; Schotanus et al., 2009; Schotanus and Telgen, 2007) have progressively contributed knowledge to the concept of collaboration. In most of the cases, the authors do not specifically address developing countries' issues. There is a notable lack of solid inquiry on the African and developing world perspective. Past research seems fragmented, as no single line of argument seems to come out clearly. For example, the behavioural aspects have no line of continuous scientific inquiry.

2.2 Trust

Trust is one's belief that the other partner will act in a consistent manner and do what he or she says he or she will do. We conceptualize trust according to Swan and Trawick (1987) dimensions of dependability, honesty, competence, partner orientation and friendliness. According to networking theory, a large and diverse group of people will be able to work together with some minimal level of trust (Huxham and Vangen, 2004). Pesamaa and Hair (2007) state that the more mutual trust exists, the less likely the relationship will result in undesirable actions. Trust is related to the assumptions of Transactions Cost Theory (TCT) because bounded rationality can be reversed through trust, since it enables the parties to take a long term view of the relationship (Ganesan, 1994). Trust also reduces opportunism, (Chiles and McMackin, 1996), uncertainty (Luhmann, 1995), and the need for negotiating, drafting, monitoring, and control of contracts, thus lowering transaction costs (Chiles and McMackin, 1996). The level of trust is different at various stages of collaboration (Kanter, 1994). For example, the formation or searching stage is a pre relationship stage, and search trust is needed. At management stage, the

behaviour patterns have been institutionalised, so collaborating entities look out for competence trust and goodwill trust (Das and Teng, 2001b). We hypothesize:

H1: The existence of trust leads to a higher level of collaboration in the early phases of horizontal purchasing collaboratives.

2.3 Commitment

Commitment is the belief that the trading partners are willing to devote energy to sustaining the relationship (Dion et al., 1992). Conceptual literature on commitment continues to evolve towards a three-component model; instrumental commitment, normative commitment, and affective commitment (Gilliland and Bello). Based on the TCT, commitment reverses bounded rationality because it orients parties in collaboration to a long term view of the relationship (Ganesan, 1994). Commitment makes entities make short term sacrifices to do work for the other entities. Drawing from the resource based view (RBV), the attractiveness of an entity to others is based on its resources and its ability to exploit them. We expect that organised resources, lead to higher levels of collaboration. We therefore hypothesize:

H2: The existence of commitment leads to a higher level of collaboration.

2.4 Trust and commitment

According to Brennan and Turnbull (1999), high levels of trust lead to adaptations to accommodate a partner (commitment). With new collaborative initiatives, there is need to first develop initial trust to lead to future commitment (based Morgan and Hunt, 1994). We therefore hypothesize that:

H3: The existence of trust leads to higher level of commitment.

2.5 Reciprocity

Reciprocity is a state of relationship where an organisation gives something to another in return for something else. There is mutual action, giving, and taking between the collaborating parties (Bignoux, 2006; Sullivan et al., 2003). According to Sullivan et al. (2003) we conceptualise reciprocity according to equivalence, immediacy and interest. From the social exchange theory point of view, reciprocity is important to collaboration because it initiates and stabilizes social interaction among entities (Sanders and Schyns, 2006). Equivalence is more important in the beginning of collaboration than in the long run because of relatively shorter reciprocation time and individual partner selfishness (Sanders and Schyns, 2006). A stronger norm of reciprocity will create a sense of willingness to relate with others to realise long term benefits. This is likely to increase the level of collaboration. So, we hypothesize:

H4: The existence of reciprocity leads to a higher level of collaboration.

2.6 Dependence

Dependence is the extent to which a partner provides important and critical resources for which there are few alternative sources of supply (Buchanan, 1992). We conceptualise dependence according to Hammarkvist et al. (1982) and Mattsson (1999), in terms of: technical, knowledge, social, economic, and information technology dimensions. From the RBV point of view, dependence is important in collaboration, because dependence is a phenomenon which contributes to the equilibrium or to the lack of it in a relationship (Svensson, 2002). This equilibrium is more necessary in the initial stage of collaboration (Sullivan et al., 2003). Drawing from RBV, we argue that collaborations are becoming more important, because partners realise that their success is dependent on capabilities and resources of others. Consequently, organisations take actions to secure the resources on which they are dependent.

H5: The existence of dependence leads to a high level of collaboration.

2.7 Dependence and commitment

If an entity seeks to have scarce/unavailable resources from others, it will accept to make short term sacrifices, meet costs or restrictions (Leonidou et al., 2006) by other collaborating entities. It will adjust its structures, processes, and policies (Leonidou et al., 2006) to adapt to those of collaborating procuring and disposing entities (PDEs). We therefore hypothesize:

H6: The existence of dependence leads to a higher level of commitment.

2.8 Level of collaboration and benefits of collaboration

Collaboration provides concrete benefits and results (Schotanus, 2007). For example through collaboration volumes are leveraged to secure benefits from economies of scale because of combined purchasing power. In Uganda, with PDEs at similar levels in authority and mandate, there is a lot of duplication of same processes/tasks. Combining them reduces costs of operation, time spent in individual processes and maximises use of systems that would otherwise remain sub optimally used. We therefore hypothesize:

H7: The higher the level of collaboration, the higher the benefits of horizontal purchasing collaboration for an individual entity.

The hypothesised relationships are shown in the conceptual framework below:

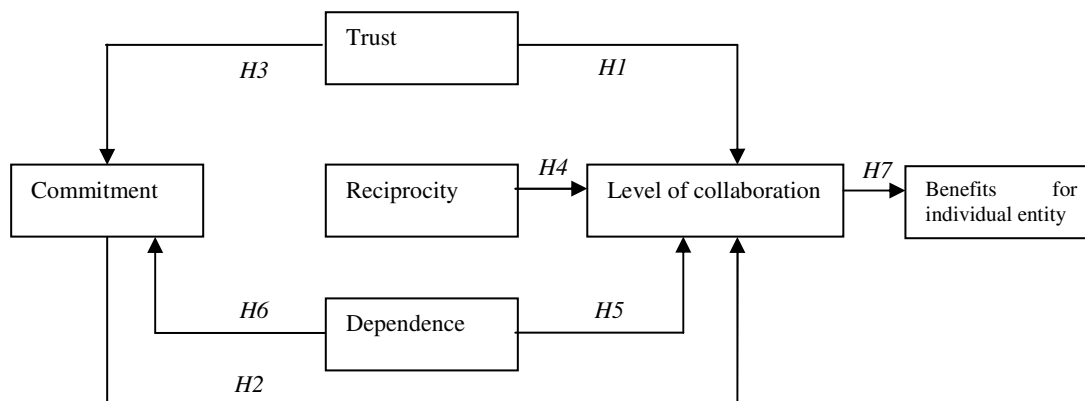


Fig. 1 Conceptual model

3. Method

We carried out a large scale survey to test the hypotheses posed shown in Figure 1. The study population included 271 organisations (PDEs) in the public sector, out of which 107 were sampled. We received responses from 63, a response rate of 59%. We operationalised variables according to literature to ensure construct validity in our measurement. In order to refine the questionnaire and ensure validity and reliability, we carried out a pilot test mainly to ensure content validity. We pre-tested the questionnaire on a focus group and made some adjustments. To ensure internal consistency of the instruments, we used the Chronbach’s alpha test. The lowest coefficient was .734, above the .70 accept/reject standard (Cronbach, 1951). We used factor analysis to test for construct validity of the variables. Based on Stevens (1992) inter-correlations cut off point of 0.5, tests showed that the instrument was valid.

3.1 Data analysis

To analyse data, we first checked them for completeness and inconsistencies, and removed incomplete answers list wise. The assumptions for parametric tests, based on Field (2005) passed the tests. Since we operationalised our variables into several dimensions, we carried out a factor analysis to discover simple patterns of relationships among the variables. Since our data were mainly interval data and normally distributed (Field, 2005), we tested for correlation using the Pearson’s correlation coefficient method. Since there are several known predictors at different stages of conceptualisation, we conducted a hierarchical regression analysis to test the fit of the model. We first entered the level of collaboration to predict the level of variability in benefits of an individual entity (model 1) followed by the level of collaboration, reciprocity, dependence, trust, and commitment as the predictors (model 2).

3.2 Findings and discussion

The results are shown in Table 1 below:

Table 1 Zero order correlation matrix

Variable	Com.	Trust	Dep.	Rec.	Coll.	Benefits
Commitment	1					
Trust	.586**	1				
Dependence	.584**	.624**	1			
Reciprocity	.561**	.652**	.547**	1		
Level of collaboration	.252*	.467**	.529**	.287*	1	
Benefits of individual entity	.194	.618**	.504**	.400**	.675**	1

** Correlation is significant at the .01 level (1 – tailed)

* Correlation is significant at the .05 level (1 – tailed)

H1: The existence of trust leads to a higher level of collaboration in the early phases of horizontal purchasing collaboratives.

There was a significant positive relationship between trust and collaboration ($r = .467, p < .01$). This

shows that presence of trust increases the level of collaboration. The almost moderate relationship indicates the importance of building trust in the relatively newly established collaborative initiatives. We note that trust takes time to develop and is a continuous process as Leonidou et al. (2006) concluded. Pesamaa and Hair Jr (2007) also noted that in early phases of collaboration, loyalty of partners to each other is minimal and this inhibits the growth of trust.

H2: The existence of commitment leads to a higher level of collaboration

There was significant positive relationship between commitment and the level of collaboration ($r = .252, p < .05$). This indicates that once there is commitment, the level of collaboration will also increase. The weak relationship could be attributed to the PDEs which are government owned, and could be less motivated to gain benefits since most benefits are public and less perceived as personal (Tumwine, 2006).

H3: The existence of trust leads to a higher level of commitment

There was a significant positive relationship between trust and commitment ($r = .586, p < .01$). This indicates that once trust increases, commitment also increases. The moderate positive correlation indicates that trust and commitment enforce each other in collaboration. Trust and commitment can be improved and reduced relatively quickly by each other. Our findings match with literature (Whan and Taewon, 2005) that trust leads to adaptations to accommodate a partner and be committed to such a partner. The moderate (and not strong) correlation could be explained by the short time the collaborative initiatives have existed in Uganda.

H4: The existence of reciprocity leads to a higher level of collaboration

There was a significant positive relationship between reciprocity and collaboration ($r = .287, p < .05$). This is an indication that when reciprocity increases, the level of collaboration also increases. From our results, the weak correlation may reflect the minimal give and take practice in the newer collaborative initiatives.

H5: The existence of dependence leads to a higher level of collaboration

There was a significant positive relationship between dependence and collaboration ($r = .528, p < .01$). This indicates that an increase in dependence leads to a higher level of collaboration. We note that the moderate correlation between dependence and the level of collaboration compared to correlations between trust, commitment, and reciprocity with the level of collaboration may indicate that PDEs practice collaboration, not mainly because of trust, commitment or reciprocative reasons, but importantly because the other PDEs provide critical resources for which there are few alternative sources of supply. So, dependence is important for increasing the level of collaboration.

H6: The existence of dependence leads to a higher level of commitment

There was a significant positive relationship between dependence and commitment ($r = .584, p < .01$). This may indicate that an increase in dependence leads to an increase in the level of commitment.

H7: The higher the level of collaboration, the higher the benefits of horizontal purchasing collaboration for individual entity

There was a significant positive relationship between the level of collaboration and benefits of individual entity ($r = .675, p < .01$). The moderate relationship may reflect the hindrances to collaborative purchasing like the policy guidelines which still require some of the procurement processes to be implemented separately. Based on Aylesworth's (2003), we note that the collaborative initiatives in developing countries are largely local networks and voluntary cooperatives, which are informally organised. Since horizontal collaboration requires systematic analysis and configuration, which would support agile implementation of procurement plans, and continuous time oriented designs (Hoffmann and Schlosser, 2001), we find our results reasonable.

3.3 Regression results

Our model tested hypotheses that related to predictability at two levels: level of collaboration on benefits for individual entity and behavioural variables on the level of collaboration. We conducted a hierarchical regression analysis to test the fit of the model. The model in Table 2 indicates that the level of collaboration is linearly related to benefits of an individual entity (F change = 41.367, Sig. F change = .000) and explaining 40.4% of the total variance of benefits of an individual entity ($R^2 = .404$). The model also indicates that trust, commitment, dependence, and reciprocity explain 53.9% of the total variance of the level of collaboration ($R^2 = .539$). The remaining 46.1% of the total variance is explained by other factors which we did not consider. Commitment and trust linearly significantly and positively relate to benefits (F change = 4.163, Sig. F change = .005) and explain 13.5% of benefits of individual entity. Since our model has a large F-ratio of above 1 as recommended (Field, 2005), we consider our model as a good one.

Table 2 Hierarchical Linear multiple regression

Model		Unstand. coefficients		Stand. co.		Collinearity Statistics		
		B	Std Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	1.757	.278		6.320	.000		
	Level of coll.	.651	.101	.636	6.432	.000	1.000	1.000
2	(Constant)	1.350	.297		4.537	.000		
	Level of coll.	.476	.109	.465	4.370	.000	.715	1.399
	Commitment	.197	.098	.279	2.005	.050	.418	2.393
	Trust	.280	.103	.367	2.719	.009	.444	2.252
	Dependence	.070	.090	.105	.775	.442	.443	2.260
	Reciprocity	.109	.104	.150	1.041	.302	.387	2.582
	R	R²	Adjusted R²	Std. error of estimate	R² change	F change	Sig. change	F Durbin-Watson
	.636 ^a	.404	.394	.48279	.404	41.367	.000	
	.734 ^b	.539	.498	.43938	.135	4.163	.005	1.463

^a Predictors: (Constant), Level of collaboration

^b Predictors: (Constant), Level of Collaboration, Reciprocity, Dependence, Trust, Commitment

^c Dependent variable: Benefits of individual entity

From the regression results, it is interesting to note that contrary to results from developed countries (e.g., Leonidou et al., 2006), there is a noticed importance of trust and dependence compared to commitment and reciprocity in influencing the level of collaboration. One of the reasons may be that trust is relatively more important than others because one of its dimensions (friendliness) is relatively high in developing countries and Uganda in particular (Turyatunga, 2008). This compensates for other dimensions like competence which may be relatively low.

In developing countries, there is uncertainty of the outcome of collaborative practices (Luhmann, 1995). In Uganda, this is more pronounced as there are few cases to demonstrate that collaborative initiatives result into the promised benefits. We argue that it is trust and dependence that are important, as compared to commitment and reciprocity, because these provide a cushion against the uncertainty of outcomes in developing countries (Luhmann, 1995)

Based on Leonidou et al. (2006), the empirical finding that trust refers to feelings about the relationship, while commitment represents manifestations of actions within the relationship, is consistent with our findings since in the developing countries, collaborative initiatives are still relatively new, so feelings (trust) are more important than manifestations of actions (commitment) which are yet to fully evolve.

We also note that dependence has more influence on the level of collaboration than other factors, because in developing countries, planning is not done in time (Turyatunga, 2008). Therefore time dependence is an important dimension in predicting the level of collaboration. Based on RBV, seeking for resources which individual entities lack is a key motivator to collaboration, thus making dependence an important predictor. We also argue that dependence is more important in developing countries because it is about providing critical resources, which the developing countries largely miss. We also note that developing countries have a higher income per capita, compared to developing countries. Consequently, they have few resources available to each of the public entities, creating a need to depend on each other.

3.4 Conclusions

This study has made a contribution to the understanding of the effects of behavioural aspects on (stimulating) horizontal purchasing collaborative initiatives in developing countries. The article adds to the existing literature by providing quantitative empirical findings on how behavioural aspects can influence collaboration in the developing countries context. We recognise some limitations to our study. First, we note that we focused on four behavioural factors, leaving out other possible behavioural and even non behavioural factors. Second, we recognise the inadequacies in cross sectional studies to explain variables like trust which can be ascertained after a long period of time.

Our conclusions are as follows. First, affective commitment construct causes more variability in the commitment variable than the other commitment dimensions. To managers, this is a lesson to build a sense of pride and belonging of their PDEs in the collaborative initiative. Second, in developing countries with low

competences, motivation for collaboration may mainly result from dependence. Finally, the variable of benefits of collaboration is a function of the level at which collaboration has reached. Managers should attain higher levels of collaboration, and deeper and wider scopes of collaboration to enjoy higher benefits collaboration.

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