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PERFORMANCE AMBIGUITY AND FLEXIBILITY IN BUYER-SUPPLIER RELATIONS

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ABSTRACT

Performance ambiguity (performance evaluation problem) has been mainly used as a predictor in most studies related to supplier-buyer relations. This study however shifts this focus by using it as an outcome variable. Performance ambiguity has been conceived as a concept under behavioral uncertainty, which brings a challenging task in separating the two. Performance ambiguity being an ex-post variable and the fact that opportunism is a hidden aspect in this construct makes it of an interest to understand. Findings reflect a significant role of flexibility on performance evaluation problem and suggest the focus on flexibility to be handled with care to extent it does not escalate the performance evaluation problem.

Keywords: *Performance evaluation, flexibility, environmental uncertainty, asset specificity, Inter-firm cooperation*

INTRODUCTION

Transaction cost Analysis (TCA) has defined the concept of information asymmetry under concepts of behavioral uncertainty and performance ambiguity (Williamson, 1985). Performance ambiguity is a wider concept but most studies have used it as a predictor. Authors have talked about how the performance ambiguity manifest (Anderson and Schmittlein 1984), but we hardly understand empirically the drivers of this concept. Rindfleisch & Heide (1997 noted antecedents of performance ambiguity to be behavioral uncertainty and bounded rationality. This give rise to several things: One is being treating behavioral uncertainty as sub-concept of performance ambiguity and second being concluding this concept just by bases of assumption of limitation. Concept of performance ambiguity is ex post in nature and hence, its' occurrence will likely the outcome other factor.

Performance evaluation problem is of interest because most of relational problems such as opportunism are hidden within this concept. This paper will also examine factors that impact on flexibility. This paper will start by introducing concept of performance ambiguity, and then develop a conceptual model with set of hypothesis. Paper later presents research method before results from the hypotheses. We finally finish with discussion implications.

Performance Evaluation

Performance ambiguity has been viewed in most part of TCA literature as problems associated with evaluation of supplier or monitoring difficulties (Williamson, 1979). The concept was introduced by Ouchi (1980) and was later shaped by Anderson and Schmittlein (1984) and Anderson (1985). It has been viewed as a result of information lack (Anderson and Schmittlein 1984) and likely to result into opportunism (Rindfleisch and Heide, 1997; Williamson, 1979).In a business-to-business relationship, performance ambiguity can be viewed as the difficulty of evaluating *ex post* the exchange partner in terms of whether he/she has delivered the output. Performance ambiguity is related to ex-post information asymmetry which could be a potential source for opportunism. The general antecedents that were suggested by Rindfleisch & Heide 1997 (behavioral uncertainty and bounded rationality) are quite unsatisfactory and contradictive hence a need for focusing other influential factors for this concept is necessary.

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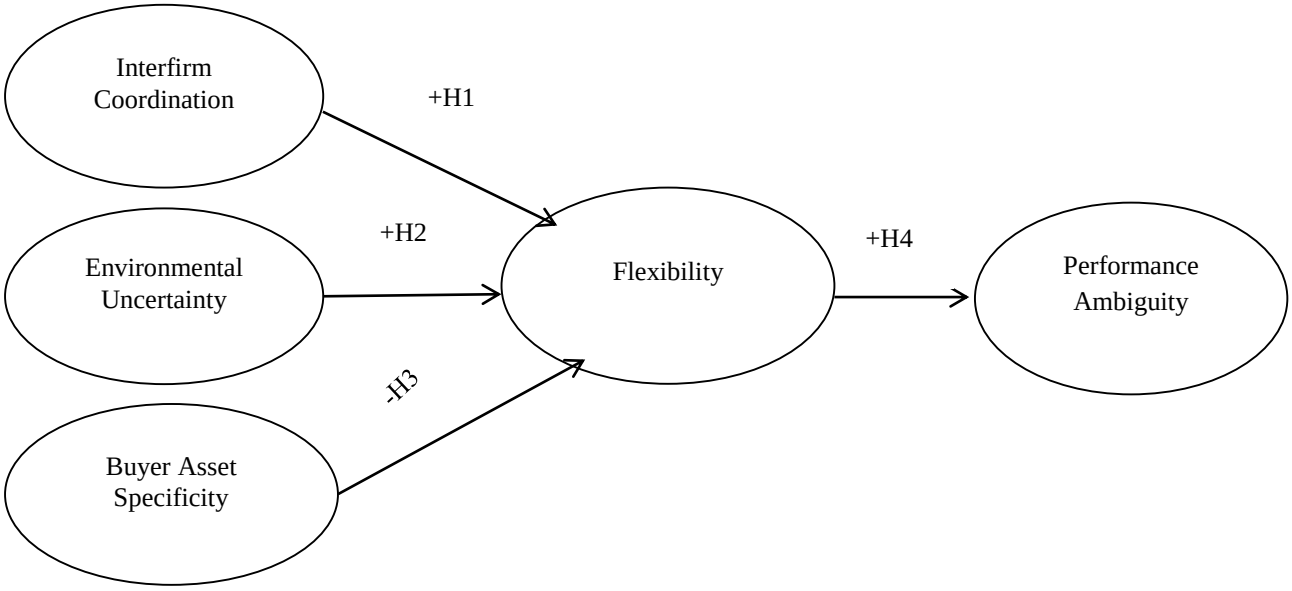
Conceptual Model and Hypothesis

The model below describes the direct effect of flexibility on performance ambiguity. It also indicates the effects on flexibility. Key variables that impact flexibility are asset specificity, environmental uncertainty and inter-firm coordination. The nature of effect of each variable is indicated by a + or – sign on each hypothesis.

Figure 1: Conceptual model



Effect on Performance Ambiguity

Effect of flexibility: Flexibility provides assurance for good faith in case of changed conditions (Heide & John, 1992). Flexibility has previously been connected to performance. For example Bello and Gilliland (1997) found a positive association between performance and flexibility. "Flexibility received attention because product life cycles are becoming shorter, customers are changing their preferences faster, and competition has become increasingly fiercer" (Dreyer & Grønhaug, 2004:484). Due to subjective nature of flexibility, the likelihood of performance ambiguity is higher.

H1: Flexibility has a positive impact on performance ambiguity

Effect on Flexibility

Effect of Inter-firm coordination: Inter-firm coordination is one of the forms of intermediate (hybrid/relational) modes of governance. It can be viewed as a purposive organization of activities and information flows between firms (Stern and Reve, 1980; Buvik and John, 2000).Inter-firm coordination extend legal requirement of a particular set of relationship (Buvik &John 2000). Dowst (1988) and Spekman (1988) have supported the idea that inter-firm coordination reduces ex-post transaction cost. Better adaptation has been associated with inter-firm coordination (Heide & John, 1990). Due to fact that adaptation depend on flexibility between partners, inter-firm coordination is expected to have a positive impact on flexibility.

H2 Inter-firm cooperation has a negative effect on flexibility

Effect of environmental uncertainty: Noordewier (1990:8) described the concept of environmental uncertainty as ''unanticipated changes in circumstances surrounding an exchange''. Environmental uncertainty is a reflected by instability in volume or technical (Geyskens et al, 2006). Geyskens et al., (2006) found the positive influence of environmental uncertainty (technological) on flexibility. ''Uncertainty makes flexibility valuable'' (Dreyer & Grønhaug, 2004).

H3: Environmental uncertainty has positive effect on flexibility

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Effect of Asset Specificity: According to (Williamson 1985:5). Asset specificity is defined as the "durable investments that are undertaken in support of particular transactions, the opportunity cost of which investments is much lower in best alternative uses or by alternative users should the original transaction be prematurely terminated". Williamson (1985) suggested a use of safeguard due to threat of opportunism when specific assets are involved. Safeguarding on specific asset will negatively affect partners' level of flexibility in the relationship. Thus;

H4: High level of asset specificity will have a negative effect on flexibility

METHOD

Study context

The empirical context for our study is Tanzanian producer and distributor firms, representing suppliers and buyers respectively. The sampling frame was based on Tanzania revenue authority records for registered business of 2008. Data were collected from distributor (buyer) firms. A random sample of n=150 buyers were contacted by phone call, of which n=130 were interested to participate.

The questionnaires were delivered personally to the distributors, which gave the opportunity to explain the questions, to ascertain that the respondents were knowledgeable about the phenomena under study, and to tell them that they should choose a supplier of which they had a frequent relationship with (cf. Rokkan et al., 2003). The final sample consists of 97 buyers.

Measurements

Performance ambiguity (PA):
Performance ambiguity refers to difficulty of accurately measuring ex post the exchange partner's compliance with expected output. The four items are based on ones developed by Anderson (1985) and Ghosh and John (2005). This concept was measured using four item, seven-point scale, anchored by "strongly disagree" and" strongly agree" Factor analysis revealed one-factor solution with α=.70.

Flexibility (FLEX):
A 7-points Likert scale consisting of multi items indicating the degree of acceptance has been widely used in measuring this concept (Heide & John, 1992; Heide 1994). The focus on mesuring this construct has been on parties' expected flexibility in response to changing circumstances (Heide 1994). Factor analysis revealed one-factor solution with α=.79.

Buyer asset specificity:
This concept has been used five item, seven-point scale, anchored by "strongly disagree" and" strongly agree" statements in measuring buyer's specific investment (Rokklan et al 2003). Factor analysis revealed one-factor solution with α =.93.

Inter-firm cooperation:
Multi item scales have mainly been used to measure vertical coordination (Heide & John, 1990). The study has adopted previous items from Buvik and John (2002) and Heide and John (1990) by employing a 7-points Likert scale. Factor analysis revealed one-factor solution with α=.82.

Environmental uncertainty:
The items used in these studies reflect instability (complex, volatile, difficult to monitor, uncertain markets, high forecast error) and other items reflect venturing into the unknown as the firm's emphasis on new activities (Anderson, 1985), or volume and technological uncertainties (Noordiwier et al, 1990). The study used three items (all shown in table1) in measuring this concept. Factor analysis revealed one-factor solution with α=.83

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Table 1: Summary of measurements

Factor Loadings		Composite Reliability	Items
Interfirm coordination			
λ_{11}	.75	81.5%	*IC1: We regularly exchange information on this product with this supplier*
λ_{12}	.72		*IC2: We regularly exchange information about price development and market conditions with this supplier*
λ_{13}	.72		*IC3: We cooperate closely with this supplier on quality control of product delivered to our firm.*
Environmental uncertainty			
λ_{21}	.87	82.78%	*EV1: Demand for this product varies continually*
λ_{22}	.86		*ENV2: Our most important competitors are regularly carrying out product adjustment*
λ_{23}	.86		*ENV3: Product we are purchasing from this supplier have high innovation rate and varies continually*
Buyer asset specificity			
λ_{31}	.76	93.4%	*BUASP1: We have made significant investment in equipment dedicated to our relationship with this supplier*
λ_{32}	.97		*BUASP2: We have made significant investment in equipment dedicated to our relationship with this supplier*
λ_{33}	.97		*BUASP3: Training our people to deal with this supplier has involved substantial commitments of time and money*
λ_{34}	.94		*BUASP4: Our logistics system have been tailored to meet the requirements of dealing with this supplier*
Flexibility			
λ_{41}	.91	78.92%	*FLEX1: Flexibility in response to request for changes is a characteristic of this relationship*
λ_{42}	.83		*FLEX2: The parties expect to be able to make adjustments in the ongoing relationship to cope with changing circumstances*
λ_{43}	.78		*FLEX3: When some unexpected situation arises, the parties would rather work out a new deal than hold each other to*
Performance Evaluation Problem			
λ_{51}	.73	70%	*PA1: It is inadequate to evaluate this supplier base on item(s) price*
λ_{52}	.67		*PA2: Evaluating the supplier's performance is highly complex process*
λ_{53}	.69		*PA3: There would be significant costs associated with one-site monitoring of this supplier*
λ_{54}	.81		*PA4: Precise standards to assess this supplier's performance are not readily available*

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Table 2: variable correlation

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1.BUASP1	1																
2.BUASP2	.65**	1															
3.BUASP3	.64**	.968**	1														
4.BUASP4	.579**	.900**	.930**	1													
5.IC1	-,121	-,097	-,076	-,07	1												
6.IC2	-,140	-.200*	-,160	-,16	.605**	1											
7.IC3	-,133	-,059	-,038	-,028	.607**	.58**	1										
8.FLEX1	-,099	-,184	-,128	-,089	.265**	.28**	.44**	1									
9.FLEX2	-,187	-.229*	-,176	-,143	.302**	.27**	.417**	.678**	1								
10.FLEX3	-,034	-,039	,003	,015	.227*	.24*	.387**	.589**	.398**	1							
11.PERFA1	,027	-,044	-,05	-,02	,135	,14	.276**	.350**	.250*	.255*	1						
12.PERFA2	,091	,077	,060	,061	,114	-,01	,088	.270**	.234*	,076	.269**	1					
13.PERFA3	,090	-,030	-,026	-,03	,104	,101	,130	,195	,194	,046	.388**	.254*	1				
14.PERFA4	-,086	-,161	-,176	-,17	.227*	.26**	.252*	.367**	.463**	,170	.442**	.462**	.395**	1			
15.ENVU1	,102	-,065	-,014	-,01	-,046	-,01	-,055	,184	,138	-,025	.336**	,180	.317**	.244*	1		
16.ENVU2	-,025	-,051	-,006	,001	-,078	-,14	-,040	,156	,089	-,052	.289**	,106	,151	,153	.617**	1	
17.ENVU3	,079	-,061	-,049	-,08	-,137	,012	-,030	-,004	,008	-,045	.212*	,028	,162	.241*	.626**	.604**	1
Mean	5.57	5.62	5.60	5.62	5.32	5.64	5.71	5.31	5.40	5.67	5.43	4.93	5.12	5.35	5.3	5.3	5.4
SD	.557	.57	.533	.55	1.17	1.23	1.145	.75	.812	1.03	.83	1.04	.87	1.15	.995	1.06	1.09

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

*. Correlation is significant at the 0.05 level (2-tailed).

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RESULTS

To test the main hypotheses, we used AMOS 17. The model fit well [Chi-square was 130.978 (*df*=112, p=.106). RMSEA = .042]. Other fit tests performed well also like NFI=. 88, TLI=. 97, CFI=. 98. Construct discriminant validity for the latent variables were obtained by allowing the covariance among constructs. The covariance among constructs was very low, suggesting constructs were not measuring same concepts. Step two as suggested by Hair et al (2010) was to fix the covariance between construct to 1 and re-test the model, which again there was a significant difference between the two models suggesting discriminant validity.

The main results are presented in the table 2. H1 which predicted positive impact of inter-firm coordination on flexibility was strongly supported (t=4. 501, p<. 0001). H2 which suggested a positive impact of environmental uncertainty on flexibility was also supported (t=1. 945, p<. 05), while H3 which suggested a negative impact of asset specificity on flexibility was not supported, though the direction of effect was consistent with the prediction. Finally H4 that suggested a positive impact of flexibility on performance ambiguity was strongly supported (t=3.787, p<.0001).

Table 2: Path Analysis

Hypotheses		Regression Weights	t-values	P-values
H1	Inter-firm coordination --->Flexibility	.393	4.501	P<.0001
H2	Environmental uncertainty ---> Flexibility	.171	1.945	P<.05
H3	Asset specificity ---> Flexibility	-.120	-.923	P>.05
H4	Flexibility --→ Performance evaluation Problem	.415	3.787	P<.0001
Indicators of Model Fit				
Chi- square (*df*) 130.978 (112, p= .106) RAMSEA= .042 NFI= .88 TLI=. 97 CFI=.98				

DISCUSSION

Despite recognition of the benefits of flexibility in buyer-seller relationships, the negative impact of flexibility has received little examination. We extend previous research by showing that flexibility may increase performance ambiguity. Increased performance ambiguity has been found to dampen the positive association between relational governance and performance (Poppo et al., 2008). When performance measurement difficulties escalate, this may lead to increased opportunism, for instance by suppliers shirking their expected effort levels and/or using hidden information to augment their costs. Several studies have recommended flexibility as an appropriate governance mechanism to deal with environmental dynamism and substantial employment of specific investments. Inter-firm governance based on flexible adjustment processes create, however, the risk of informal and uncertain performance evaluations due to the lack of fixed and predictable measurement standards. Accordingly, such coordination practices should be carefully monitored in order to ensure that possible performance evaluation problems do not escalate with possible, destructive consequences for the entire value creation in business-to-business relationships.

The effects of inter-firm coordination and environmental uncertainty on flexibility were positive and significant and provide support for our hypotheses, while the expected impact of asset specificity on flexibility was not supported although the direction of the effect was in accordance with our prediction

Most studies in TCA have used the concept of performance ambiguity as a predictor of transaction uncertainty, and rather few contributions have been concerned with the evaluation problem on its own. There are many other sources of performance ambiguity, and this study is limited in the sense that rather few aspects are examined. Furthermore, our study is limited by small sample size.

CONCLUSION

Most studies have advised on the mechanism to deal with environmental variations or higher levels of asset specificity are to allow for flexibility. What we have not for a long time is how the potential problems which can also be influenced by such a choice. We do not just advise on entirely avoiding of flexibility in this study,

but such a move should be monitored to ensure that the evaluation problem does not escalate. The study is limited by small sample size and a new context, which make it challenging to compare the results. The concept of performance ambiguity is still a complex conceptual dimension to deal with because it has been assumed to be a part of behavioral uncertainty.

Though this is a new step toward looking at broad issues underlying core dimensions of TCA we hope that this has a potential contribution toward the theory. More studies can later try to expand on other factors surrounding performance evaluation problem.

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