The Impact of Supplier Switching Cost on the Downstream Supply Chain Performance of SMEs, with the Moderation Effect of the Partnership Quality

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INTRODUCTION

In modern business, competition is no longer between organizations, but among supply chains and a firm's competitive advantage depends on the relationships it forges with external organizations. Measuring supply chain performance can facilitate a better understanding of the supply chain, positively influence actors' behaviour, and significantly improve its overall performance.

Switching cost, which is identified as a contributing factor to supply chain performance, is also perceived as a powerful competitive business tool that leads to lower relationship costs and higher revenues. Partnership quality between exchange partners too has important implications on the operational performance. Even though a widely-acknowledged typology of switching costs consists of three types, up to date no study has explored these different facets, specifically for measuring the supply chain performance. Based on the theoretical underpinnings of the Transactional Cost Economies Theory and the Social Exchange Theory, this study attempts to understand the impact of supplier switching cost on the downstream supply chain performance of SMEs in the Sri Lankan apparel industry, considering the three categories of switching costs, namely procedural, financial and relational switching costs, with the moderation effect of the partnership quality.

The significance of this study is high since it contributes new knowledge to the existing literature by addressing an untapped research gap.

LITERATURE REVIEW

The independent variable, Supplier Switching Cost, is defined as "Onetime costs that customers associate with the process of switching from one provider to another" (Burnham et al., 2003) while the dependent variable, Supply Chain Performance, is defined as "The performance of the various processes included within the firm's downstream supply chain function" (Srinivasan et al., 2011). The moderating variable, Partnership quality, refers to "The perceived realization of expected outcomes arising out of inter-organizational relationship between the focal firm and its supplier" (Srinivasan et al., 2011).

Only limited research exists which studies the antecedents and consequences of switching costs in a B2B context in particular (Matzler et al., 2015). Many previous studies attest to the transaction cost savings of these inter-organizational systems, but ignore the switching costs required to change partners (McLaren et al., 2002). Even though switching cost is identified as a contributing factor to performance measures, the findings do not acknowledge the different facets of switching costs (Burnham et al., 2003) in measuring the supply chain performance.

Srinivasan et al., (2011) argues that a superior partnership quality between focal firm and its suppliers may have beneficial effects on the supply chain performance.
It has also been argued that measuring supply chain performance can facilitate a greater understanding of the supply chain, and improve its overall performance (Chen et al., 2004). Even though many diagnostic tools assessing the performance of supply chain operations are available, many of them are complicated and difficult to use in real business settings. SMEs were not able to apply assessment tools such as the SCOR model on their own, as they lacked adequate empirical knowledge on business practices (Banomyong et al., 2011). Therefore, in order to measure the dependent variable, supply chain performance, this research has employed the performance indicators used by Srinivasan et al, (2011).
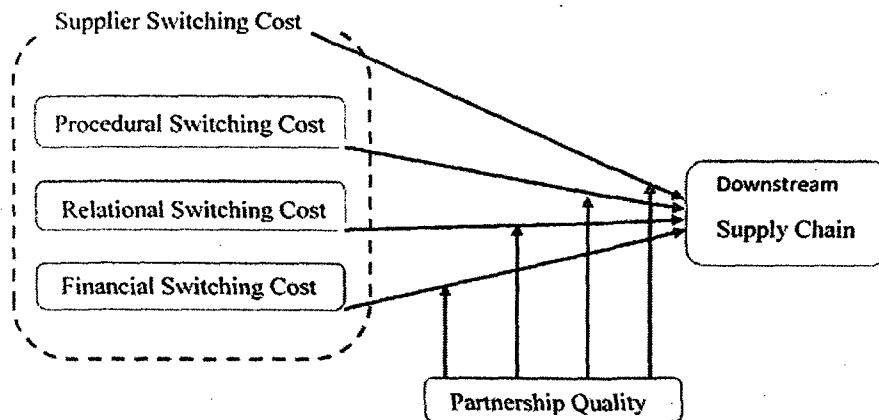
CONCEPTUAL MODEL

Figure 1- Conceptual Model

METHODOLOGY

In Sri Lanka, Micro, Small & Medium Scale Enterprises (SMEs) play a vital role in the apparel industry and as they are primarily based on the relationships between the supply chain members supplier switching costs are of paramount importance. This research was conducted in the apparel industry of Sri Lanka considering the Board of Investment (BOI) registered SMEs, where the SME was considered as the unit of analysis. The sample frame was the total number of BOI registered Apparel Manufacturers in operation, which is 294. From this, the entire target population of 137 SMEs, was tested in this study. However, the response rate for the questionnaires distributed, was 73 percent (100/137). The respondents in this study were the supply chain managers, operations managers, general managers or the owners.

The self-administered questionnaire comprised of two sections. The first section, focused on firm demographics and the second was developed by drawing on existing scales. Supplier switching cost was measured with items borrowed from Burnham et al., (2003) and Matzler et al., (2015). Supply chain performance items were taken from Srinivasan et al., (2011) and partnership quality tems from Han et al., (2008). A combination of 7 point Likert scales and 5 point Likert scales were used to retain the original scales and to avoid the Common Method Variance (CMV).

Since different SMEs had a varying number of suppliers in their supplier base, the data was collected representing a random, consistent proportion of them. Supplier

switching costs were averaged afterwards to represent the firm as a whole and was linked with the downstream supply chain performance to identify the impact. Data analysis of the study has been done using the statistical analysis tool, IBM SPSS 23.0.

DATA ANALYSIS AND RESULTS

In this cross-sectional study, no missing values were identified from the missing value analysis and no significant outliers were discovered from the box plot anaysis. Out of all SMEs, Micro scale companies were 17.1 percent and the small & medium scale companies were 82.9 percent. The majority of the supplier base consisted of local suppliers (77.0 percent) with long term relationships (81.3 percent). 67.3 percent of the employees recorded were permanent while 24 percent were temporary.

Convergent validity was tested using KMO and Bartlett's test statistic and all construct measures were accepted with high reliability scores. Discriminant validity was tested using an Exploratory Factor Analysis (EFA) with a varimax rotation and principal component method. The results suggest that a reduction of the original scale was necessary. Five items in the independent variable, procedural switching cost, were removed from the scale due to low factor loadings. The modified shorter version of the procedural switching cost scale was used in all subsequent tests. The reliability of each variable was tested using the Cronbach alpha statistic and all the values were more than 0.7, ensuring high level of internal consistency and reliability. A Pearson correlation analysis was conducted using the mean scores of the independent and dependent variables; and except for one independent variable, financial switching cost, the others had significant positive relationships, moderate in strength, with the dependent variable. Financial switching cost indicated a weak positive ($r = 0.126$) and insignificant ($p = 0.149$) relationship with the dependent variable. All multivariate assumptions were satisfied and since all indedpendent and dependent variables were scale and as a moderator was also involved, the Generalized Linear Regression Model was used. Omnibus Test figure confirmed the existence of a statistically significant, valid model ($p = 0.001$).

Table 3- Generalized Linear Regression Model Findings

Parameter	B	Sig	Hypothesis Test
(Intercept)	2.800	0.006	
Adj_PSC	4.077	0.022	H2 Accepted
RSC	-3.628	0.001	H3 Accepted
FSC	0.974	0.484	H4 Rejected
Adj_PSC * MPQ	-0.914	0.039	H6 Accepted
RSC * MPQ	0.916	0.000	H7 Accepted
FSC * MPQ	-0.203	0.564	H8 Rejected
(Scale)	0.785[a]		

Dependent Variable: DSCP
Model: (Intercept), Adj_PSC, RSC, FSC, Adj_PSC * MPQ, RSC * MPQ, FSC * MPQ

a. Maximum likelihood estimate.

Adj_SC	-0.165	0.698	H1 Rejected
MPQ * Adj_SC	0.144	0.046	H5 Accepted
(Scale)	0.932[a]		

Dependent Variable: DSCP
Model: (Intercept), Adj_SC , MPQ * Adj_SC
a. Maximum likelihood estimate

According to the above table, apart from the direct impact from financial switching costs ($p = 0.484$), its moderation effect with the partnership quality ($p = 0.564$) and the direct impact from switching cost as a whole ($p = 0.698$) on the dependent variable, all other direct relationsips and the moderated relationships are statistically significant. It is also evident that the direct impact of relational switching costs on the dependent variable is negative; and the moderation effect of partnership quality on the procedural switching costs is also negative.

CONCLUSIONS

The findings validate the model and support two of the supplier switching cost dimensions (Procedural and Relational switching cost) and determine a direct significant impact and a significant moderating impact (via partnership quality) on the downstream supply chain performance. The direct impact of relational switching costs on the dependent variable and the moderation effect of partnership quality on the procedural switching costs were negative. Financial switching costs however, showed no significant relationship with the

downstream supply chain performance directly nor even when moderated by partnership quality. The supplier switching cost as a whole too had no significant impact, unless it was moderated by the partnership quality.

The knowledge gathered from visiting the SMEs revealed that in the context of apparel industry in Sri Lanka, the prices offered by the suppliers played an important role when making switching decisions and that since most firms already have a thoroughly evaluated supplier base with many suppliers for the same raw material, switching suppliers is not a major dilemma as they can be easily replaced. However, most firms tend not to switch suppliers due to their strong long term relationships.

This study further concludes that procedural switching costs should be revised as a shorter version of the original scale due to the cultural specificity of certain items, where cultures like Sri Lanka are reluctant to endorse some of the negative statements in the scale. Practitioners are also encouraged to formulate their relationship strategy to maximize the downstream supply chain performance.

Cruicially, this study has some limitations that have the potential to lead to future research. It provides fertile ground for developing and testing the model in differnet industries and market segments without limiting to apparel. Respondents' perceptions, attitudes and behaviours are influenced by the nature of their businesses, which creates a need to validate the findings in other types of SMEs, in the manufacturing sector. Future research could further explore the impact of other variables that can moderate the relationships in this model.

Keywords: Supplier Switching Cost, Downstream Supply Chain Performance, Partnership Quality, Micro Small & Medium Scale Enterprises (SME), Sri Lankan Apparel Industry.

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