

Strategic sourcing in the textile and apparel industry

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Abstract:

Purpose

– The purpose of this paper is to investigate performance outcomes of strategic sourcing, specifically examining how strategic sourcing affects buyer-supplier relationship, supplier evaluation, and sourcing performance from the buying firm's perspective in the context of the US textile and apparel industry.

Design/methodology/approach

– This study provides an empirical investigation of a theory-based model integrating the resource-based view and the relational view of strategic management. The model is tested using data from 180 US textile and apparel firms by structural equation modeling.

Findings

– The survey results indicate that strategic sourcing significantly impacts buyer-supplier relationships, supplier evaluation, and sourcing performance of buying companies. The study also shows that supplier evaluation significantly influences buyer-supplier relationship.

Research limitations/implications

– Given that the data are from a specific industry, the generalizability of current findings to other industries may require additional investigation.

Practical implications

– Sourcing becomes a key strategic consideration for textile and apparel firms to sustain or improve their competitiveness.

Originality/value

– The study contributes to the literature by developing a research model based on a multi-theoretical perspective and conducting a large-scale empirical survey in the textile and apparel industry and analyzing the model by structural equation modeling. The dynamic textile and apparel industry is a classical representation of global supply chain, characterized by the industry's significant contribution to the world economy and international trade, the extremely worldwide spread supply network, and the tremendous competition in global market. Examining

strategic sourcing's influences in this important industry provides many valuable implications for industrial practitioners.

Keywords: United States of America | Textile industry | Buyers | Suppliers | Channel relationships | Sourcing | Buyer-supplier relationship | Performance | Strategic sourcing | Supplier evaluation | Textile and apparel

Article:

1. Introduction

Strategic sourcing in the textile and apparel industry has received increasing attention over the last decade due to two important developments. First, textile and apparel firms have increasingly been competing in dynamic and complex world marketplace, considering continual changes and uncertainties in product availability, prices, and competition (MacCarthy and Jayarathne, 2012; Bruce and Daly, 2011; Kumar and Arbi, 2008; Åkesson et al., 2007). Second, the prominence of effectively managing global textile and apparel supply chain has increased. Business managers are thinking of new strategies and implementing new practices to increase firm performance.

The textile and apparel industry is a classical representation of global supply chain, which is characterized by the significant contribution to world economy and international trade, the numerous steps and the diverse activities in the chain, the extremely worldwide spread supply network, the tremendous competition in global market, the varying product and quality specifications being managed and the volatility of consumer preferences (MacCarthy and Jayarathne, 2012; Bruce and Daly, 2011; Abernathy et al., 2006). The textile and apparel industry not only includes industrial segments of fiber, fabric, and apparel production, but also consists of marketing, distribution, and retail operations of apparel and textile products. The nature of the textile and apparel industry and the increased pressures from fickle consumers and uncertain business environment are making more and more firms to recognize the strategic role that sourcing can play in achieving sustainable competitive advantage (MacCarthy and Jayarathne, 2012; Bruce and Daly, 2011; Kumar and Arbi, 2008). One method of improving a firm's competitiveness in managing the globally extended textile and apparel supply chain is through the strategic approaches to worldwide suppliers. Going far beyond cost considerations, sourcing decisions affect the production, marketing, distribution and financial strategies that a firm can put into effect. Top management in textile and apparel firms are developing and implementing more proactive sourcing strategies to deal with environmental changes, risks and uncertainties.

The objective of this paper is to investigate the role of strategic sourcing in improving textile and apparel firms' performance, specifically the effect of strategic sourcing on buying firm's buyer-supplier relationship, supplier evaluation, and sourcing performance. In the following section, the relevant literature review is presented; then, the research conceptual framework and the hypotheses are developed. Subsequently, the research methodology is described, followed by the data analysis and results. The paper discusses the results and implications in Section 6. Finally, the paper provides conclusions and future study directions.

2. Literature review

This section presents the literature on the theoretical background of this study and the research constructs, specifically strategic sourcing, buyer-supplier relationship, and supplier evaluation.

2.1 Theoretical background

Previous research suggests that strategic sourcing and buyer-supplier relationship are multifaceted phenomena that can only be explained by a multi-theoretical perspective. Terpend et al. (2008) advocate that future research needs to recognize the limitations of a single theoretical perspective and adopt a multidimensional view to explain how buyer practices and the influence of buyer-supplier mutual efforts. In reviewing the body of literature, we utilize multiple-theory studies, including specifically the resource-based view (RBV) and the relational view.

2.1.1 Resource-based view

The RBV theory (Barney, 1996; Wernerfelt, 1984) focuses on explaining how firm-specific resources and capabilities characterized by value, rareness, imitability, and non-substitutability form the basis of sustained competitive advantage. A firm's resources include tangible and intangible assets and capabilities such as employment of skilled personnel, trade contacts, in-house knowledge of technology, efficient procedures, etc. (Barney, 1996; Wernerfelt, 1984). From a theoretical perspective, strategic sourcing is viewed by top management as an important resource of a firm which can be utilized to create or develop the firm's unique and inimitable resources and capabilities to maintain or increase the firm's competitiveness (Dobrzykowski et al., 2010; Shook et al., 2009; Chen et al., 2004).

2.1.2 Relational view of strategic management

The increasing importance of strategic role of purchasing in supply chain management and the rapid growth of strategic buyer-supplier relationships across many industries has attracted a great deal of scholarly attention to recognize the issue of how relational competencies generate sustainable strategic advantage (Chen et al., 2004). Dyer and Singh (1998, p. 660) argue that “an increasingly important unit of analysis for understanding competitive advantage is the relationship between firms”. The relational view of strategic management argues that firms should view their ability to manage their inter-organizational relationships as a strategic resource for building strategic advantage (Cousins et al., 2008; Paulraj et al., 2008; Dyer and Singh, 1998). Relational view highlights the idea that inter-organizational relationships potentially provide a firm with access to key resources from its environment. Strategic sourcing requires a long-term orientation and may ultimately create collaborative advantage and bring about greater benefits of collaborative advantage than a traditional non-strategic sourcing based approach to competition (Chen et al., 2004).

2.2 Strategic sourcing

Previous literature addresses the need for sourcing to assume a more strategic role (Su and Gargeya, 2012; Kang et al., 2009; Paulraj and Chen, 2007; Gottfredson et al., 2005) in this age of ever-increasing world competition. Chan and Chin (2007) maintain that strategic sourcing has been increasingly recognized as an integral part of business strategies and practices. Carr and Pearson (2002) define strategic sourcing as the process of planning, evaluating, implementing, and controlling highly important sourcing decisions in an effort to meet a firm's long-range plans and goals. Kocabasoglu and Suresh (2006) identify the four key elements of strategic sourcing: elevation of purchasing function to a strategic level, effective cross-functional communication and support within an organization, information sharing with key suppliers, and development of key suppliers. Chiang et al. (2012, p. 53) defines strategic purchasing as “a demonstration of the strategic role of purchasing in the firm's long-term planning and this is posited to have a bearing on supply chain agility”. Incorporating previous literature and considering the purpose of this study, the theoretical construct of strategic sourcing in this research is conceptualized by being proactive as well as long-term focus, having top management support, and strategically managing supplier relationships.

2.3 Buyer-supplier relationship

In strategic sourcing, in order to manage suppliers as assets and integrate suppliers into the supply chain, buying firms need to make considerable effort to develop beneficial buyer-supplier relationship. Buying firms attempt to interact closely with their key supply partners to manage environmental uncertainties. The development of relationship-specific capabilities can lead to collaborative advantages for both supplier and buyer firms in the dynamic marketplace.

There has been an impressive increase in the number of publications on buyer-supplier relationships over the past two decades (Miocevic and Crnjak-Karanovic, 2012; Terpend et al., 2008). Cousins et al. (2008, p. 238) argue that “close link between buyers and suppliers are increasingly cited as a critical differentiator of high and low performers in global supply chains”. Terpend et al. (2008) provide a comprehensive review of the studies of buyer-supplier relationships between 1986 and 2005. Terpend et al. (2008, p. 28) reveal that scholars have primarily investigated performance outcomes and value derived from buyer-supplier relationship and “researchers considered more buyer-supplier mutual efforts since 1996 than the earlier decade”. Among the mechanisms used by both buyers and suppliers to increase the value derived from their relationships, communication, information sharing, and trust are three prominent contributors for successful buyer-supplier relationships (Terpend et al., 2008).

2.4 Supplier evaluation

Since suppliers represent a critical resource to a firm, the perceptions of the buying organization regarding its suppliers' current and expected performance affect the performance of the buying firm directly and indirectly. Supplier evaluation is a quantification process that is linked to not only the evaluating buyer company's decision process, but also the evaluated supplying company's behavior (Hald and Ellegaard, 2011). Supplier evaluation is a tool to communicate the buyer firm's perceptions of supplier performance and capabilities (Prahinski and Fan, 2007). Buying organizations can utilize supplier evaluation for supplier selection, supply base reduction decisions, supplier development and benchmarking, and development of strong and collaborative

relationship with a group of key preferred suppliers (Cormican and Cunningham, 2007; Prahinski and Fan, 2007).

It is important for evaluating buying companies to have a formal program or system for evaluating and recognizing suppliers and tracking the performance of the existing suppliers. Supplier evaluation program or system can be used as an effective way to quantify and communicate the measurements and targets to the supplier so that the supplier is made aware of the discrepancy between its current performance and the buying firm's expectations (Modi and Mabert, 2007; Prahinski and Fan, 2007; Prahinski and Benton, 2004). Buying firms use formal supplier evaluation to communicate their perceptions of supplier's strengths and weaknesses and expectations of supplier performance and capabilities to maintain capable and high performance supply bases (Modi and Mabert, 2007; Prahinski and Fan, 2007).

3. Conceptual framework and hypotheses

3.1 Linking strategic sourcing to buyer-supplier relationship

Firms that consider sourcing to be strategic are likely to appreciate buyer-supplier cooperative relationships. In strategic sourcing, sourcing managers play a pivotal role in developing working relationship and effective communication with suppliers (Chiang et al., 2012; Kocabasoglu and Suresh, 2006; Chen et al., 2004). A collaborative buyer-supplier relationship is more desirable for the buying firm in the supply market which is full of uncertainty, risk, and turbulence. As an important resource of a firm, strategic sourcing drives the firm to access, acquire, or develop additional resources through buyer-supplier cooperation. According to this line of reasoning, the following hypothesis is developed:

H1. Strategic sourcing has a positive impact on buyer-supplier relationship.

3.2 Linking strategic sourcing to supplier evaluation

Strategic sourcing recognizes the important role that suppliers play in the buying firm's sourcing decision making (Chiang et al., 2012; Kocabasoglu and Suresh, 2006). Strategic sourcing helps the firm to identify the most appropriate supply base for its needs in today's dynamic global market (Chiang et al., 2012). Measuring supplier performance is an important result of strategic sourcing decision. Decisions regarding the sourcing requirements and sourcing strategy will define the set of suppliers for initial consideration. The supplier evaluation then becomes a matter of highly rigorous assessment of potential supplier candidates. Strategic sourcing influences how the buying firms identify their key suppliers and how the supplier evaluation programs are designed, implemented, and used. Thus, the following hypothesis is proposed:

H2. Strategic sourcing has a positive impact on supplier evaluation.

3.3 Linking supplier evaluation to buyer-supplier relationship

One of the largest resources for a company is its supply base. Strategically managing suppliers from evaluating, recognizing, and tracking suppliers through supplier certification provides

information about the buying firm's perceptions regarding the supplier's performance, which in turn will influence the supplier's commitment to the buying firm and the buying firm's effort in supplier development program (Prahinski and Fan, 2007; Prahinski and Benton, 2004). Supplier evaluation is an effective communication strategy that a buyer undertakes to improve a supplier's performance and/or capabilities to meet the buyer's short- or long-term supply needs. The practice of supplier evaluation is aimed at improving communication between buyers and suppliers and strengthening the buying firm's relationships with key suppliers so that risk of opportunistic behavior is limited. Therefore, the following hypothesis is formally stated:

H3. Supplier evaluation has a positive impact on buyer-supplier relationship.

3.4 Linking buyer-supplier relationship to sourcing performance

The value of buyer-supplier relationship is well documented in the supply chain literature. The RBV and the relational view of strategic management explain value extraction in buyer-supplier relationships (Terpend et al., 2008). Strong relationship with suppliers benefits the buying firm in the long run, fostering an environment of mutual support, improving flexibility and responsiveness among supply chain partners, and providing value to the ultimate customer (Miocevic and Crnjak-Karanovic, 2012; Terpend et al., 2008; Paulraj and Chen, 2007). Better information sharing and higher levels of collaborative communication between a firm and its suppliers can increase both buyer and supplier performance (Paulraj et al., 2008) due to increased operational efficiency and better coordination from both buyer and supplier firms. Therefore, this leads to the following hypothesis:

H4. Buyer-supplier relationship has a positive impact on sourcing performance.

3.5 Linking supplier evaluation to sourcing performance

Measuring supplier performance is an important approach to modifying a buyer firm's managerial behavior, and aligning the relationship with the strategic and operational goals of the buyer firm (Cousins et al., 2008). Based on RBV, it is apparent that supplier's capability, skills, and technologies can be an inimitable resource that has a significant impact on business performance. Supplier evaluation will help change supplier behavior which is aligned with the evaluating company's interests and improve supplier capabilities and performance; furthermore this in turn will benefit the evaluating buyer firm (Prahinski and Benton, 2004). Therefore, based on this logic, we propose the following hypothesis:

H5. Supplier evaluation has a positive impact on sourcing performance.

3.6 Linking strategic sourcing to sourcing performance

Chen et al. (2004) demonstrate robust support for the links between strategic purchasing, customer responsiveness, and financial performance of the buying firm. Paulraj and Chen (2007) provide empirical support that there is a positive link between environmental uncertainties and strategic supply management initiatives (strategic sourcing is a key ingredient of strategic supply management), and their findings further support the link between strategic supply management

and buyer performance. Chiang et al. (2012) find that strategic sourcing is significantly related to the firm's supply chain agility. Following the preceding discussion, we expect the following hypothesis:

H6. Strategic sourcing has a positive impact on sourcing performance.

3.7 Conceptual model

Grounded on the RBV and the relational view, the research conceptual model was developed based on the linkages between strategic sourcing, buyer-supplier relationship, supplier evaluation, and sourcing performance. The theoretical model postulated is shown in Figure 1, which includes the above six hypotheses.

4. Methodology

4.1 Research design

A survey instrument was used to collect the data and test the proposed hypotheses. The items tapping the theoretical constructs were developed based on an extensive literature review of the managerial and scholarly literature to establish the content validity of each construct and associated scales. Feedback on the initial design was then obtained from academics familiar with empirical research in study domain and senior managers. A revised survey instrument was finally pre-tested by nine purchasing managers for content validity. Where necessary, questions were reworded to improve validity and clarity. Our discussions with academic and industrial professionals strengthened the fact that the choice of the indicators adequately measured each construct.

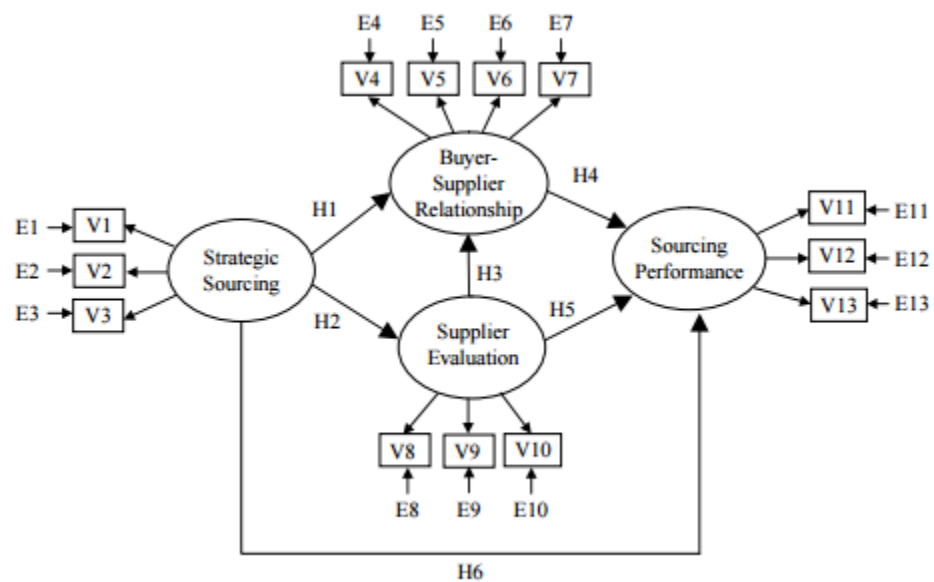


Figure 1.
Model integrating the
structural and
measurement models –
SEM representation

To increase measurement accuracy, multiple indicators were used for each latent variable considered (Raykov and Marcoulides, 2000) and existing scales were employed where possible.

A five-point Likert scale was used with “1 – strongly disagree” and “5 – strongly agree”. The three items that measure strategic sourcing were developed by referring to Carr and Pearson (2002). They capture the key concept of strategic sourcing including strategic orientation, relationship development with key suppliers, and top management support. The four items of buyer-supplier relationship construct was adopted from Carr and Pearson (1999) including buyer-supplier loyalty, frequent face-to-face communications with key suppliers, high corporate level communication on important issues with key suppliers, and the buyer's influence on key supplier's responsiveness. The measure of supplier evaluation was adopted from Carr and Pearson (1999). The three items in the construct include formal supplier certification program, formal system to track the performance of the suppliers, and formal program for evaluating and recognizing suppliers. The three items measuring sourcing performance were developed from discussion with industrial managers and literature review, focusing on contributions of sourcing to the overall success of the firm and to the firm's bottom-line profit, and sourcing's value-creating outcomes.

4.2 Data collection

Dillman's (2000) “tailored survey methodology” was followed for data collection from a random sample of 660 firms in the US textile and apparel industry in order to increase the response rate. All the recipients of the survey were selected carefully and were believed to be the most knowledgeable about sourcing of textile or apparel products for their companies with titles such as purchasing/sourcing manager, buyer, etc. The cover letter of the survey also stated:

If you feel that you are not the most qualified individual at your company to fill out the survey, please forward this to that person and encourage him or her to complete the survey.

To ensure that the most appropriate professionals fill out the survey. Multiple contacts by mail, e-mail and follow-up phone calls were implemented for each firm during data collection. A thank you e-mail message or a thank you letter was sent to every company who returned their survey. During the data collection, 21 firms reported that they were not in the textile and apparel industry any more. Finally, a total of 181 questionnaires were returned by mail, e-mail or fax, representing 28.3 percent response rate. 180 were usable responses for examining the relationships in the research model.

5. Analysis and results

A comparison was made between the respondents who responded immediately with those who responded after follow-up steps were implemented to examine non-response bias. t-tests were performed on the items included in the research model. No statistically significant differences were found among the early and late respondents, indicating that non-response bias was not a problem in this study. To investigate the relationships in the conceptual model, structural equation modeling (SEM) analysis based on the maximum likelihood estimation method was carried out using LISREL 8.8.

5.1 Descriptive statistics

Table I presents a summary of the descriptive statistics of the respondents. About 45.3 and 54.7 percent of the respondents were from the textile industry and the apparel industry, respectively. About 49.2 percent of the responding firms had annual gross sales less than \$100 million, about 27.6 percent had annual gross sales \$100-\$500 million, and about 14.4 percent had annual gross sales over \$500 million.

5.2 The measurement model

Table II provides the correlation matrix and the descriptive statistics of the variables in the measurement model. Evaluation of the measurement model was conducted using confirmatory factor analysis to examine the relationships between the indicator variables and their respective underlying factors. Table III shows the fit indexes used in assessing measurement model fit. A satisfactory fit is achieved for the measurement model (the $\chi^2/(df)=1.62$, less than 2.00; the root mean squared error of approximation (RMSEA)=0.059; the goodness-of-fit index (GFI)=0.92; non-normed fit index (NNFI)=0.98; comparative fit index (CFI)=0.98) (Table III).

Characteristics	Frequency	Percentage
<i>Industrial sector</i>		
Textile industry	82	45.3
Apparel production	66	36.5
Apparel retailer/wholesaler/distributor	33	18.2
<i>Geographic areas distribution (top eight states)</i>		
North Carolina	55	30.4
California	26	14.4
Georgia	18	9.9
Pennsylvania	10	5.5
South Carolina	9	5.0
Ohio	9	5.0
New York	8	4.4
Massachusetts	8	4.4
<i>Number of employees</i>		
Less than 100	28	15.5
100-249	39	21.5
250-499	29	16.0
500-1,000	32	17.7
Over 1,000	51	28.2
Missing	2	1.1
<i>Annual gross sales (US\$)</i>		
Less than 5 million	13	7.2
8-24.9 million	31	17.1
25-49.9 million	19	10.5
50-99.9 million	26	14.4
100-500 million	50	27.6
Over 500 million	26	14.4
Missing	16	8.8

Table I.
Descriptive statistics
of the respondent firms

Note: Total respondents $n = 181$

A summary of the factor loadings (unstandardized), standard errors, t-values, and reliability analysis in the measurement model is shown in Table IV. The t-values of all the path parameter estimates for each factor in the measurement model are greater than 2.0; therefore, all the path parameter estimates are statistically significant with $p < 0.05$. Reliability analysis was conducted using the standardized reliability estimate (Sharma, 1996) and composite reliability coefficient (DeVellis, 2003) for a given construct. As shown in Table IV, all the reliability coefficients are

above the threshold 0.60 which DeVellis (2003) recommended and the acceptable guideline 0.70 which Nunnally (1978) suggested, indicating strong support for the construct reliability.

VAR	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13
V1	1.000												
V2	0.589	1.000											
V3	0.595	0.650	1.000										
V4	0.204	0.291	0.240	1.000									
V5	0.298	0.242	0.226	0.271	1.000								
V6	0.311	0.403	0.388	0.285	0.472	1.000							
V7	0.263	0.454	0.299	0.347	0.455	0.494	1.000						
V8	0.399	0.306	0.283	0.006*	0.314	0.251	0.295	1.000					
V9	0.432	0.387	0.338	0.127*	0.363	0.350	0.309	0.669	1.000				
V10	0.417	0.355	0.294	0.115*	0.389	0.319	0.288	0.695	0.787	1.000			
V11	0.329	0.350	0.428	0.250	0.184	0.216	0.260	0.177	0.333	0.236	1.000		
V12	0.348	0.409	0.415	0.271	0.178	0.165	0.289	0.209	0.266	0.244	0.693	1.000	
V13	0.271	0.442	0.337	0.322	0.165	0.179	0.352	0.162	0.256	0.193	0.686	0.707	1.000
Mean	3.24	4.19	3.98	4.31	3.85	4.03	4.19	2.80	3.36	3.03	4.56	4.48	4.72
SD	1.360	1.113	1.054	0.750	1.000	0.945	0.824	1.489	1.397	1.388	0.702	0.720	0.552

Table II.
Correlation matrix and descriptive statistics for the manifest variables

Notes: Correlation is not statistically significant at: * $p < 0.05$; valid $n = 180$

Fit indices for the measurement model	Value	Recommended value
χ^2/df	1.62	≤ 2.0
RMSEA	0.059	≤ 0.10
GFI	0.92	≥ 0.90
NFI	0.95	≥ 0.90
NNFI	0.98	≥ 0.90
CFI	0.98	≥ 0.90

Table III.
Fit evaluation of the measurement model

Convergent validity is established since all the t-values of the factor loadings are statistically significantly different from zero (Table IV) and each loading is in the anticipated direction and magnitude, indicating that all indicators are effectively measuring the same construct.

Discriminant validity is shown by the confidence interval of two standard errors around the correlation for each respective pair of factors. Table V shows that none of the confidence intervals include 1.0; therefore, discriminant validity was established. The results from evaluation of the measurement model indicate that the measurement model is adequate for testing the proposed structural model.

Indicator/variables and their underlying factors	Unstandardized factor loading	SE	<i>t</i> -value	<i>R</i> ²	Composite reliability	Standardized reliability
<i>Strategic sourcing</i>					0.826	0.825
V1 – sourcing’s long-range plan is reviewed and adjusted to match changes in the company’s strategic plans on a regular basis	1.00	0.09	10.66	0.54		
V2 – sourcing’s long-range plan includes developing relationships with key suppliers	0.92	0.07	12.42	0.68		
V3 – top management of our company emphasizes the strategic role of sourcing function	0.83	0.07	11.71	0.62		
<i>Buyer-supplier relationship</i>					0.731	0.724
V4 – we are loyal to key suppliers	0.33	0.06	5.51	0.20		
V5 – we have very frequent face-to-face planning meetings or communications with key suppliers	0.64	0.08	8.45	0.41		
V6 – there is high corporate level communication on important issues with key suppliers	0.67	0.07	9.47	0.50		
V7 – sourcing can influence key supplier’s responsiveness to the purchasing requirement	0.59	0.06	9.64	0.51		
<i>Supplier evaluation</i>					0.887	0.886
V8 – we have a formal supplier certification program	1.14	0.10	11.74	0.59		
V9 – our company has a formal system to track the performance of the suppliers we deal with	1.23	0.09	14.29	0.78		
V10 – our company has a formal program for evaluating and recognizing suppliers	1.24	0.09	14.57	0.80		
<i>Sourcing performance</i>					0.871	0.872
V11 – the purchasing function is very important to the overall success of my company	0.58	0.05	12.70	0.67		
V12 – the purchasing function adds value to the firm in the area of production/operations/logistics	0.61	0.05	13.29	0.72		
V13 – purchasing contributes to the firm’s bottom-line profit	0.46	0.04	12.96	0.69		
Notes: All <i>t</i> -values are statistically significant at: <i>p</i> < 0.05; valid <i>n</i> = 180						

Table IV. Factor loadings, standard errors, *t*-values, *R*² and reliability coefficients in the measurement model

5.3 The structural model

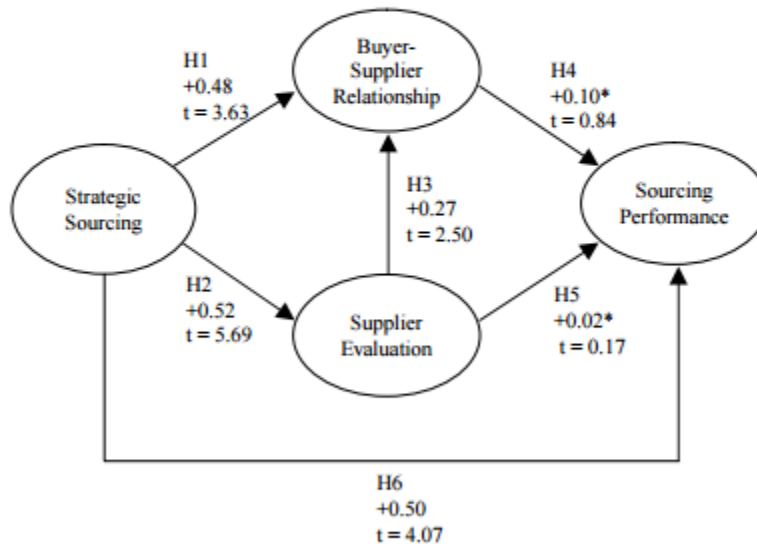
The results from evaluation of the structural model are shown in Figure 2. The structural equation model supports the relationships stated in the H1 (standardized path coefficient=0.48, *p*<0.01) and H2 (standardized path coefficient=0.52, *p*<0.01), demonstrating that strategic sourcing has a positive impact on buyer-supplier relationship and supplier evaluation, respectively. The structural model results also support the H3 (standardized path coefficient=0.27, *p*<0.05) that supplier evaluation has a positive impact on buyer-supplier relationship, and the H6 (standardized path coefficient=0.50, *p*<0.01) that strategic sourcing positively impacts sourcing performance. However, support is not found for the H4 (the relationship between buyer-supplier relationship and sourcing performance, standardized path coefficient=0.10, non-significant) or the H5 (the relationship between supplier evaluation and sourcing performance, standardized path coefficient=0.02, non-significant).

6. Discussion and implications

The objective of this research is to better understand the role and the performance outcomes of strategic sourcing. Based on the data analysis results, several key insights emerge, which lead to discussion of the findings and the theoretical and managerial implications.

Correlated factors	Correlation	SE	Confidence interval
Strategic sourcing – buyer-supplier relationships	0.62	0.07	(0.48, 0.76)
Strategic sourcing – supplier evaluation	0.52	0.07	(0.38, 0.66)
Strategic sourcing – sourcing performance	0.57	0.06	(0.45, 0.69)
Buyer-supplier relationships – supplier evaluation	0.52	0.07	(0.38, 0.66)
Buyer-supplier relationships – sourcing performance	0.42	0.08	(0.26, 0.58)
Supplier evaluation – sourcing performance	0.33	0.08	(0.17, 0.49)

Table V.
Discriminant validity of the measurement model



Notes: *Indicates the *t*-value for the standardized path coefficient is not statistically significant at: $p < 0.05$; the path coefficients in the figure are standardized parameter estimates

Figure 2.
Structural model and the hypotheses in the research model

6.1 The influence of strategic sourcing on buyer-supplier relationship, supplier evaluation, and sourcing performance

The direct, significant and positive relationship between strategic sourcing and buyer-supplier relationship empirically validates the assertions made by Carr and Pearson (1999) that strategic purchasing positively impacts buyer-supplier relationships. Sourcing professionals today have evolved to become relationship managers facilitating sourcing decision making by bringing together the relevant parties internal and external to the organization. Buying firms should actively manage their relationships with suppliers because strategic sourcing leads firms to view the buyer-supplier relationship as a key asset or a valuable resource that brings capabilities of the suppliers to complement and enhance their own core competences, not simply sources of low-cost materials in their drive for minimizing unit-price.

The direct, significant and positive linkage between strategic sourcing and supplier evaluation found in this study indicates that strategic sourcing leads to the increased efforts in managing and developing a firm's supplier base. Not all selected suppliers qualify for or need development assistance (Li et al., 2012). In an effort to develop long-term collaborative relationship with key suppliers, buying firms choose to reduce their supply base and undertake to improve their critical suppliers' performance and capabilities using evaluation and certification to measure against qualification level. Modi and Mabert (2007) maintain that it is expected that firms will undertake the evaluation and certification activities prior to initiating operational knowledge transfer activities with the supplier.

The direct, significant and positive linkage between strategic sourcing and sourcing performance validates the results demonstrated by Chan and Chin (2007). The current study also supports the notions made by Chen et al. (2004) that strategic purchasing plays a vital role in supply management, which in turn positively impacts buying firm's performance. Industrial managers need to realize the significant contributions of strategic sourcing to the buying firm's business performance in regard to firm's bottom-line profit, production/operations/logistics, and overall success. It is imperative for practitioners to incorporate strategic sourcing as an integral part of the firm's business processes.

The positive and significant performance outcomes of strategic sourcing provide a solid ground for the theoretical implication that strategic sourcing is a viable prerequisite for effective sourcing behavior. The study results support the notion that the implementation of strategic sourcing will increase the firm's efforts in developing collaborative buyer-supplier relationship with respect to enhance communication and responsiveness from suppliers and will tend to develop a systems approach in managing suppliers including evaluating, recognizing and certifying suppliers and tracking supplier's performance. Strategic sourcing is critical to the overall success of the firm.

6.2 The influence of supplier evaluation on buyer-supplier relationship

The direct, significant and positive relationship between supplier evaluation and buyer-supplier relationship suggests that firms implementing supplier evaluation through formal system or program to evaluate, recognize, track, and certificate suppliers are more likely in a better position to build collaborative buyer-supplier relationship.

From the theoretical perspective, this finding supports the notion that supplier evaluation is an effective way to maintain mutually beneficial long-term relationships with the key suppliers (Carr and Pearson, 1999). Not all suppliers are equally valuable in developing collaborative relationships because not all of them contribute equally to the buying firm's business processes (Miocevic and Crnjak-Karanovic, 2012). Supplier evaluation plays an important role in ensuring that suppliers have the required minimum level of competence to warrant further investment of resources and detecting the most critical suppliers performing well enough for further strategic relationship development (Wu, 2009; Modi and Mabert, 2007). Hence, from a practical perspective, managers should use supplier evaluation as a first step before starting other supplier development activities. Modi and Mabert (2007, p. 53) argue that "suppliers go through a rigorous evaluation process and are categorized as partner, key, approved or conditional and the

organization focuses on developing suppliers categorized as partner suppliers". Therefore, supplier evaluation enables buying firms to identify the best suppliers that could be included in developing collaborative buyer-supplier relationship.

6.3 The influence of buyer-supplier relationship and supplier evaluation on sourcing performance

The two hypotheses linking buyer-supplier relationship and supplier evaluation to sourcing performance were not supported in this study, contradicting previous findings. Li et al. (2012) show that buyers would be more likely to achieve greater success if they have close collaborative relationships with suppliers. Modi and Mabert (2007) indicate that evaluation and certification efforts made by a buying firm is proved to positively impact the buying firm's operational knowledge transfer activities which help a firm create value for itself in the form of improved supplier performance. Furthermore, Modi and Mabert also demonstrate that frequent and timely communication between buyers and suppliers leads to closer integration of operations between buyers and suppliers, providing improved performance benefits.

For researchers, two implications of the unexpected results from this study include that the complexity of buyer-supplier relationship and supplier evaluation should not be ignored, and the distinct nature of the textile and apparel industry, which is characterized as extremely competitive, labor intensive, highly global and mobile business, should be taken into consideration.

One possible explanation of the nonsignificant relationship between supplier evaluation and sourcing performance could be that textile and apparel firms do not implement formal supplier evaluation programs to a great extent that lead to improved sourcing performance. Simpson et al. (2002) found that a surprisingly large number of firms had no formal method in place for evaluating suppliers. Another plausible reason may be the fact that whether suppliers are committed to the buying firm during the supplier development program, like supplier evaluation. Prahinski and Benton (2004) suggest that if the supplier is not committed, the buying firm cannot influence the supplier's performance through the supplier evaluation communication process.

One explanation of the contradictory result between buyer-supplier relationship and sourcing performance could be that "good relations" with suppliers do not directly influence the suppliers' performance significantly (Prahinski and Benton, 2004), which may lead to insignificant impact on buying firm performance. Prahinski and Benton (2004, p. 59) demonstrate that "the buying firm's cooperative efforts and expression of commitment do not directly translate into better product quality, delivery performance, price, responsiveness, service, and overall performance from the supplier". However, the results do not indicate that managers should be unconcerned with the development of good buyer-supplier relationships with suppliers.

7. Conclusions

This study contributes to the literature by assessing the linkages between strategic sourcing, buyer-supplier relationship, supplier evaluation, and sourcing performance in the context of the textile and apparel industry using empirical survey-based research methodology. Utilizing a

multi-theoretical perspective, the study developed and examined a structural equation model connecting these variables, and found support of the significant and positive performance outcomes of strategic sourcing. Strategic sourcing is increasingly emphasized by textile and apparel firms, so this research fills a gap between theory and practice concerning this trend. The results provide compelling empirical support for incorporating sourcing in firm's strategic decision making to foster firm's strategic and operational competitive advantage.

Several limitations must be acknowledged, which may lead to future research. First, considering the complexity of buyer-supplier relationship, a thorough and detailed operationalization and empirical assessment of the buyer-supplier relationship concept and measures need to be developed and refined. Second, the complex and rich relationship between buyer-supplier relationship and sourcing performance deserves further study. The impact of supplier evaluation also needs to be reinvestigated to validate this study results. Third, some of the common limitations of survey-based research apply to this study as well, including the limitations arising from reliance on single key informants for subjective measures of sourcing performance and the need for further research improvements in future studies. Fourth, considering the dynamic, global nature of the textile and apparel industry, future research may consider including business climate factors, such as dynamism and industry competition. Moreover, the generalizability of current study findings to other industries may require additional investigation. Finally, future studies could also reveal other possible avenues for studying the performance outcomes of strategic sourcing in greater detail using a qualitative research design. The in-depth interpretive approach could be fruitful for exploring and discovering new dimensions as well as identifying the actual nature of buyer-supplier relationship and supplier evaluation in firm's strategic sourcing processes.

References

- Abernathy, F.H., Volpe, A. and Weil, D. (2006), "The future of the apparel and textile industries: prospects and choices for public and private actors", *Environment and Planning A*, Vol. 38 No. 12, pp. 2207-32.
- Åkesson, J., Jonsson, P. and Edanius-Hällås, R. (2007), "An assessment of sourcing strategies in the Swedish apparel industry", *International Journal of Physical Distribution & Logistics Management*, Vol. 37 No. 9, pp. 740-62.
- Barney, J. (1996), "The resource-based theory of the firm", *Organization Science*, Vol. 7 No. 5, pp. 469-96.
- Bruce, M. and Daly, L. (2011), "Adding value: challenges for UK apparel supply chain management – a review", *Production Planning & Control: The Management of Operations*, Vol. 22 No. 3, pp. 210-20.
- Carr, A.S. and Pearson, J.N. (1999), "Strategically managed buyer-supplier relationships and performance outcomes", *Journal of Operations Management*, Vol. 17 No. 5, pp. 497-519.

- Carr, A.S. and Pearson, J.N. (2002), "The impact of purchasing and supplier involvement on strategic purchasing and its impact on firm's performance", *International Journal of Operations & Production Management*, Vol. 22 No. 9, pp. 1032-53.
- Chan, T.C.T. and Chin, K.-S. (2007), "Key success factors of strategic sourcing: an empirical study of the Hong Kong toy industry", *Industrial Management & Data Systems*, Vol. 107 No. 9, pp. 1391-416.
- Chen, I.J., Paulraj, A. and Lado, A.A. (2004), "Strategic purchasing, supply management, and firm performance", *Journal of Operations Management*, Vol. 22 No. 5, pp. 505-23.
- Chiang, C.-Y., Kocabasoglu-Hillmer, C. and Suresh, N. (2012), "An empirical investigation of the impact of strategic sourcing and flexibility on firm's supply chain agility", *International Journal of Operations & Production Management*, Vol. 32 No. 1, pp. 49-78.
- Cormican, K. and Cunningham, M. (2007), "Supplier performance evaluation: lessons from a large multinational organisation", *Journal of Manufacturing Technology Management*, Vol. 18 No. 4, pp. 352-66.
- Cousins, P.D., Lawson, B. and Squire, B. (2008), "Performance measurement in strategic buyer-supplier relationships: the mediating role of socialization mechanisms", *International Journal of Operations & Production Management*, Vol. 28 No. 3, pp. 238-58.
- DeVellis, R.F. (2003), *Scale Development: Theory and Applications*, 2nd ed., Sage, Thousand Oaks, CA.
- Dillman, D.A. (2000), *Mail and Internet Surveys: The Tailored Design Method*, 2nd ed., Wiley, New York, NY.
- Dobrzykowski, D.D., Tran, O. and Tarafdar, M. (2010), "Value co-creation and resource based perspectives for strategic sourcing", *Strategic Outsourcing: An International Journal*, Vol. 3 No. 2, pp. 106-27.
- Dyer, J.H. and Singh, H. (1998), "The relational view: cooperative strategy and sources of interorganizational competitive advantage", *The Academy of Management Review*, Vol. 23 No. 4, pp. 660-79.
- Gottfredson, M., Puryear, R. and Phillips, S. (2005), "Strategic sourcing: from periphery to the core", *Harvard Business Review*, Vol. 83 No. 2, pp. 132-9.
- Hald, K.S. and Ellegaard, C. (2011), "Supplier evaluation processes: the shaping and reshaping of supplier performance", *International Journal of Operations & Production Management*, Vol. 31 No. 8, pp. 888-910.

- Kang, M., Wu, X. and Hong, P. (2009), "Strategic outsourcing practices of multi-national corporations (MNCs) in China", *Strategic Outsourcing: An International Journal*, Vol. 2 No. 3, pp. 240-56.
- Kocabasoglu, C. and Suresh, N.C. (2006), "Strategic sourcing: an empirical investigation of the concept and its practices in US manufacturing firms", *Journal of Supply Chain Management*, Vol. 42 No. 2, pp. 4-16.
- Kumar, S. and Arbi, A.S. (2008), "Outsourcing strategies for apparel manufacture: a case study", *Journal of Manufacturing Technology Management*, Vol. 19 No. 1, pp. 73-91.
- Li, W., Humphreys, P.K., Yeung, A.C.L. and Cheng, T.C.E. (2012), "The impact of supplier development on buyer competitive advantage: a path analytic model", *International Journal of Production Economics*, Vol. 135 No. 1, pp. 353-66.
- MacCarthy, B.L. and Jayarathne, P.G.S.A. (2012), "Sustainable collaborative supply networks in the international clothing industry: a comparative analysis of two retailers", *Production Planning & Control*, Vol. 23 No. 4, pp. 252-68.
- Miocevic, D. and Crnjak-Karanovic, B. (2012), "The mediating role of key supplier relationship management practices on supply chain orientation – the organizational buying effectiveness link", *Industrial Marketing Management*, Vol. 41 No. 1, pp. 115-24.
- Modi, S.B. and Mabert, V.A. (2007), "Supplier development: improving supplier performance through knowledge transfer", *Journal of Operations Management*, Vol. 25 No. 1, pp. 42-64.
- Nunnally, J.C. (1978), *Psychometric Theory*, 2nd ed., McGraw-Hill, New York, NY.
- Paulraj, A. and Chen, I.J. (2007), "Environmental uncertainty and strategic supply management: a resource dependence perspective and performance implications", *Journal of Supply Chain Management*, Vol. 43 No. 3, pp. 29-42.
- Paulraj, A., Lado, A.A. and Chen, I.J. (2008), "Inter-organizational communication as a relational competency: antecedents and performance outcomes in collaborative buyer-supplier relationships", *Journal of Operations Management*, Vol. 26 No. 1, pp. 45-64.
- Prahinski, C. and Benton, W.C. (2004), "Supplier evaluations: communication strategies to improve supplier performance", *Journal of Operations Management*, Vol. 22 No. 1, pp. 39-62.
- Prahinski, C. and Fan, Y. (2007), "Supplier evaluations: the role of communication quality", *Journal of Supply Chain Management*, Vol. 43 No. 3, pp. 16-28.
- Raykov, T. and Marcoulides, G.A. (2000), *A First Course in Structural Equation Modeling*, Lawrence Erlbaum Associates, Mahwah, NJ. [Google Scholar]

- Sharma, S. (1996), *Applied Multivariate Techniques*, Wiley, Hoboken, NJ.
- Shook, C.L., Adams, G.L., David, J.K. Jr and Craighead, C.W. (2009), "Towards a 'theoretical toolbox' for strategic sourcing", *Supply Chain Management: An International Journal*, Vol. 14 No. 1, pp. 3-10.
- Simpson, P.M., Siguaw, J.A. and White, S.C. (2002), "Measuring the performance of suppliers: an analysis of evaluation processes", *Journal of Supply Chain Management*, Vol. 38 No. 1, pp. 29-41.
- Su, J. and Gargeya, V.B. (2012), "Strategic sourcing and supplier selection: a review of survey-based empirical research", in Choi, T.-M. (Ed.), *Fashion Supply Chain Management: Industry and Business Analysis*, IGI Global, Hershey, PA, pp. 149-72.
- Terpend, R., Tyler, B.B., Krause, D.R. and Handfield, R.B. (2008), "Buyer-supplier relationships: derived value over two decades", *Journal of Supply Chain Management*, Vol. 44 No. 2, pp. 28-55.
- Wernerfelt, B. (1984), "A resource-based view of the firm", *Strategic Management Journal*, Vol. 5 No. 2, pp. 171-80.
- Wu, L.-C. (2009), "Supplier selection under uncertainty: a switching options perspective", *Industrial Management & Data Systems*, Vol. 109 No. 2, pp. 191-205.