Procurement Practices and Supply Chain Performance of SMEs in Kampala

Sarah Eyaa and Joseph M. Ntayi
1Department of Procurement and Logistics Management, Faculty of Computing and Management Science, Makerere University Business School, P.O. Box 1337, Kampala, Uganda

Abstract: The study sought to examine the relationship between the components of procurement practices which are purchasing risk taking, purchasing knowledge and skills and strategic purchasing and supply chain performance of SMEs in Kampala District in Uganda. The motivation for the study was the fact that SMEs suffer poor supply chain performance and there was need to identify the extent to which unprofessional practices like procurement practices, explain supply chain performance. Findings revealed that the components explained 19.4% of the variance in supply chain performance, purchasing risk taking was a significant predictor of supply chain performance while purchasing knowledge and skills and strategic purchasing were not. These findings raise implications for SME managers, owners and policy makers which have to be addressed if the competitiveness of SMEs in Uganda is to be enhanced in light of increased global competition.

Key words: Procurement practices, SMEs, supply chain performance, Uganda

INTRODUCTION

In today’s highly competitive environment, supply chain performance is very vital for the survival of firms because customers judge the performance of firms basing on their supply chain performance. Competition is no longer between firms but between entire supply chains (Veludo et al., 2004). Worldwide, national economies are faced with the challenge of improving their supply chains. Given that majority of the firms in economies today are Small and Medium Enterprises (SMEs), they are the ones that are most affected by the daunting task of improving the performance of their supply chains. Small and Medium Enterprises (SMEs) play very fundamental function in the economies of many developing countries through the creation of employment and provision of support services to larger firms (UNCTAD, 1993) implying the efforts should be made to improve their performance and that of their chains in order to foster national development.

In Uganda, SMEs account for 90% of the private sector with 80% of these SMEs in urban areas (Hatega, 2007). They provide employment to approximately 2.5 million people, contribute 75% of the Gross Domestic Product and are major players in the supply chains of large manufacturing firms as buyers, suppliers or intermediaries. SME supply chains in Uganda are characterized by late deliveries, poor quality products or no deliveries at all, which are indicators of poor supply chain performance. This poor supply chain performance negatively impacts on their performance given that customers today evaluate firms basing on the performance of its chain given that competition has shifted from between firms to between entire supply chains (Ntayi et al., 2009). When the supply chain of a firm fails to perform, it is competed out of the market and is therefore likely to “die”.

SMEs face a number of challenges which are likely to explain the performance of their supply chains and their survival. A study on SMEs in Nigeria by Onugu (2005) found out that that less than 5% of the SMEs survive beyond their first year of existence because of the numerous challenges that limit their competitiveness. The same case applies to Uganda where majority of them die within the first five years while only 5 to 10% survive and make it to maturity (Private Sector Foundation Uganda, 2006). Constraints faced by SMEs in Uganda that negatively impact their performance and that of their supply chains include limited access to information (Okello-Obura et al., 2008), limited information about financing options, inadequate and expensive supply of power and telecommunication (Hatega, 2007), limited experience, limited access to business networks (Kigozi, 2006), unprofessional practices, information technology accessibility and collaborative constraints (UNCCI Report, 2005). This position is supported by Onugu (2005) who in his study on SMEs established that some of the problems of SMEs in developing countries include inadequate knowledge and skills in accounting, marketing, information technology, international trade and other areas of management.
One of the unprofessional constraints that Ugandan SMEs face is unprofessional procurement practices which can be explained by the fact that focus on procurement is in the in public sector in Uganda, where it is regulated by the Public Procurement and Disposal of Public Assets Authority (PPDAA). Procurement in the private sector on the other hand, is unregulated. Given that procurement is a vital aspect of supply chains, it is possible that the poor performance of the SMEs is explained by the procurement practices in the SMEs. According to Carr (1996), the components of procurement practices are purchasing risk taking and purchasing knowledge and skills (Carr, 1996).

A number of studies have been undertaken in Uganda on SMEs but none specifically addresses the impact of the components of procurement practices on SME supply chain performance. Okello et al. (2008) studied the impact of information access on the performance of the SMEs in Northern Uganda. Ntayi et al. (2009) examined the impact of procurement practices, information technology flexibility and collaborative relationships on supply chain swiftness. Ntayi and Eyaa (2010) studied the relationship between procurement practices, collaborative relationships and supply chain performance. Little is known about the procurement practices of SMEs in developing countries (Giunipero and Flint, 2001), specifically Uganda. Studies have been carried out to assess procurement practices in Saudi Arabia (Giunipero and Flint, 2001), Botswana (Msimangira, 2003), Taiwan (Carr et al., 2000) and United Kingdom (Pittaway and Morrissey, 2004). The Taiwan and United Kingdom studies focused on SMEs. This study however focuses specifically on explaining supply chain performance using the components of procurement practices in order to provide a new view point from which we can explain SME supply chain performance. The performance of SME supply chains is an area of concern in any economy because they play a very key role to the economies of most emerging nations from the viewpoint of generating employment and economic growth as well as providing support services to large firms.

LITERATURE REVIEW AND HYPOTHESIS

According to Carr (1996), the constructs of procurement practices are strategic purchasing, purchasing risk taking and purchasing knowledge and skills.

Strategic purchasing involves planning, evaluating, implementing, and controlling the operational activities of the purchasing function in an effort to meet the objectives of the firm (Carr and Smeltzer, 1997). Strategic purchasing ensures that a firm has a strategic procurement plan, strategies are developed to realise the plan and are often reviewed in order to take into account changes in the strategic plan of the company. The construct of purchasing knowledge and skills looks at the extent to which persons handling the procurement function exhibit high purchasing knowledge and skills. This includes ensuring that persons handling the procurement function are qualified, have the skills to monitor and interpret supply market changes as well as handle aspects of relationships with suppliers. Purchasing risk taking is about the long term focus of the purchasing function on issues that involve risk and uncertainty, eagerness of the purchasing function to take on risks when appropriate opportunities present themselves and relentless pursuit of company objectives by purchasing professionals. Supply chain performance is assessed in terms of cost, quality, timeliness and customer responsiveness (Beam, 1999).

There are a number of purchasing strategies that can be adopted by a firm. These may include but are not limited to negotiation, sourcing, developing and maintaining good relationships with suppliers, developing suppliers, protecting the cost structure of the company and minimizing costs (Kiser, 1976). These strategies when well implemented have the ability on the performance of a supply chain by reducing costs, improving quality, ensuring timely deliveries and customer responsiveness.

H1: Strategic purchasing in SMEs improves SME supply chain performance

Quayle and Quayle (2000) and Wheatley (1998) assert that effective strategic purchasing requires that the people involved in implementing the strategy are knowledgeable, making it possible to add value. This is upheld by the fact that majority of strategy management teams are cross - function to ensure that there is a wealth of knowledge and skills. The implication is that when the purchasing strategies in a firm are operationalised by persons who have the required purchasing knowledge and skills, the desired outcomes will be realised, thus improving supply chain performance. H2: Purchasing knowledge and skills improve supply chain performance.

Taking risks in the purchasing function involves long term focus and being able to take up opportunities when they arise. When risk is taken and opportunities exploited while applying the required purchasing knowledge and skills, it is possible to gain advantages that will result in improved supply chain performance. Ammer (1989) supports this position by asserting that a purchasing function will only be able to strategically contribute to a firm when it learns to take the necessary risks. People acquire the knowledge and skills that make them better decision makers from previous experiences where they took calculated risks (Neslin and Greenhalgh, 1983). H3: purchasing risk taking improves supply chain performance

METHODOLOGY

The study was carried out in 2007 and adopted a cross sectional and quantitative study design. Data was
collected from respondents who were persons in charge or overseeing purchasing management or procurement related activities using a self-administered questionnaire. The responses in the questionnaire were hinged on a 4 point Likert Scale with these responses 4 - strongly agree, 3 - agree, 2 - disagree, 1 - strongly disagree. An even number responses was preferred because an odd number gives room for responses of “neither agree or neither disagree” which can be easily confused for “I do not know” by respondents (Raaijmakers et al., 2000). The study population was 1,500 SMEs that are registered in Nakawa Division, Kampala District. The list of the SMEs was obtained from the Uganda Small Scale Industries Association. Basing on the Krejcie and Morgan (1970) sample size determination criteria, a sample of 306 is appropriate for a population of 1500. We however took a sample of 300 in order to make it possible to randomly sample the firms. The firms were listed in alphabetical order and after the first SME was chosen randomly, every fifth SME was chosen to give the total sample size. 250 usable questionnaires were collected, giving a response rate of 83%. Collected data was analysed using the Statistical Package for Social Scientists (SPSS). The correlation analysis was used to establish the nature and strength of the relationship between the variables while the regression analysis was used to determine the variance in supply chain performance that is explained by the procurement practices. In this study, we took on the classification of SMEs by the Government of Uganda basing on the number of people employed by the firms; 5 -50 people (small) and 51 - 500 people (medium) (Schiffer and Weder, 2001; Uganda Bureau of Statistics, 2003). Beyene (2002) and Mutula and Brakel (2006) however, dispute that there is no generally established classification for Small- and Medium-Scale Enterprises (SMEs) in Africa. Measures for the variables were obtained and adapted from studies undertaken by previous scholars. Supply chain performance scales were obtained from the works of Beamon (1999) while scales for procurement practices were obtained from Carr (1996). Scales were tested for reliability using the Cronbach Alpha Coefficient. The overall co-efficient was 0.7749 which according to Nunnally (1967) is good. The coefficients of the individual items are shown in the Table 1.

### RESULTS

In order to determine the strength and direction of the relationships between the dependent variables and independent variable, correlation analysis was carried out. To determine the impact of each of the independent variables on the variation in supply chain performance, a hierarchical regression analysis was carried out.

#### Correlation analysis results

The results of the correlation analysis are presented in the Table 2.

There were positive and significant relationships between the variables; purchasing risk taking and supply chain performance ($r = 0.444$, $p$-value < 0.001), purchasing knowledge and skills and supply chain performance ($r = 0.257$, $p$-value < 0.001) supporting hypothesis H2 and H3. H2: Purchasing knowledge and skills improve supply chain performance; H3: purchasing risk taking improves supply chain performance. An improvement in purchasing risk taking and purchasing knowledge and skills improves supply chain performance.

### Table 1: Cronbach alpha coefficients

<table>
<thead>
<tr>
<th>Item</th>
<th>Cronbach alpha coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchasing risk taking</td>
<td>0.70</td>
</tr>
<tr>
<td>Purchasing knowledge and skills</td>
<td>0.64</td>
</tr>
<tr>
<td>Strategic purchasing</td>
<td>0.66</td>
</tr>
<tr>
<td>Supply chain performance</td>
<td>0.81</td>
</tr>
</tbody>
</table>

### Table 2: Correlation coefficients

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>S.D.</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchasing risk taking (1)</td>
<td>2.45</td>
<td>0.72</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchasing knowledge and skills (2)</td>
<td>2.28</td>
<td>0.72</td>
<td>0.526**</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strategic purchasing (3)</td>
<td>2.36</td>
<td>0.79</td>
<td>0.503**</td>
<td>0.756**</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Supply chain performance (4)</td>
<td>2.79</td>
<td>0.40</td>
<td>0.444**</td>
<td>-0.257**</td>
<td>0.229**</td>
<td>1.00</td>
</tr>
</tbody>
</table>

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

### Table 3: Hierarchical regression analysis

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th></th>
<th>Model 2</th>
<th></th>
<th>Model 3</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Standardized Beta</td>
<td>Sig.</td>
<td>Standardized Beta</td>
<td>Sig.</td>
<td>Standardized Beta</td>
<td>Sig.</td>
</tr>
<tr>
<td>Strategic purchasing</td>
<td>0.229</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchasing knowledge and skills</td>
<td>0.196</td>
<td>0.002</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchasing risk taking</td>
<td>0.431</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>30.467</td>
<td>20.386</td>
<td>45.434</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig.</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>22.9%</td>
<td>26.2%</td>
<td>44.5%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R Square</td>
<td>5.2%</td>
<td>6.9%</td>
<td>19.8%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R Square Change</td>
<td>5.2%</td>
<td>1.7%</td>
<td>12.9%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted R Square</td>
<td>5.1%</td>
<td>6.5%</td>
<td>19.8%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A dependent variable: supply chain performance
The relationship between strategic purchasing and supply chain performance was significant and negative ($r = -0.257$). This result does not support hypothesis H1. H1: Strategic purchasing in SMEs improves SME supply chain performance. The implication is that an improvement in strategic purchasing creates a decline in supply chain performance.

**Regression analysis:** In order to determine the impact of each independent variable on supply chain performance, each variable was entered, one at a time, creating three (3) models to explain the variations in supply chain performance. The results of the hierarchical regression are shown in the Table 3.

In model 1, strategic purchasing was entered and results indicate that it (strategic purchasing) accounts for 5.2% of the variation in supply chain performance. Model 1 is statistically significant (sig. = 0.000, p<0.01, F = 30.467).

In model 2, purchasing knowledge and skills was added and the R square increased to 6.9%, implying that purchasing knowledge and skills account for a 1.7% increase in the variation in supply chain performance. Model 2 is statistically significant (sig. = 0.000, p<0.01, F = 20.386).

In model 3, purchasing risk taking was added and the R Square increased to 19.8%, implying that purchasing risk taking accounts for a 12.9% increase in the variation in supply chain performance. Model 3 is statistically significant (sig. = 0.000, p<0.01, F = 45.434).

The overall model is significant at the 0.01 level (F = 45.434, sig. = 0.000, p<0.01) and the independent variables (strategic purchasing, purchasing knowledge and skills, purchasing risk taking) explain 19.4% of the variation in supply chain performance. Strategic purchasing (sig. = 0.663, p<0.01) and purchasing knowledge and skills (sig. = 0.411, p>0.01) are not significant predictors of supply chain performance at the 0.01 level. Purchasing risk taking is a significant predictor of supply chain performance (sig. = 0.000, p<0.01) at the 0.01 level.

Strategic purchasing has a negative impact on supply chain performance (Beta = -0.026) implying that a unit increase in strategic purchasing reduces supply chain performance by 0.026 units. A unit increase in purchasing knowledge and skills increases supply chain performance by 0.05 (Beta = 0.050). A unit increase in purchasing risk taking increases supply chain performance by 0.431 (Beta = 0.431). Purchasing risk taking and purchasing knowledge and skills both have positive impacts on supply chain performance with purchasing risk taking having the strongest impact. Strategic purchasing on the other hand has a negative impact on supply chain performance.

**DISCUSSION**

Purchasing risk taking is a significant predictor of supply chain performance because SMEs in Uganda are private firms that are willing to take risks as long as there is a profit advantage attached. Majority of the private firms in Uganda are set up with very broad business objectives and are therefore eager to exploit opportunities that come their way even when their competences in these areas are limited as long as they are assured of gains that can guarantee their survival. This is evidenced by instances where SMEs are willing to bid for contracts that they have no competences in; what they do is contact people that have competences in the area in which they are bidding, make them consultants in their firms and use their documents to bid. This shows the extent to which SMEs are willing to go in order to take risks in the area of procurement in order to realise gains. Carr et al. (2000) asserts that managers make concerted attempts in taking calculated risks so that their firms can be able to advance. Given that majority of the SMEs do take risks, the effect of purchasing risk taking felt across the entire supply chain, hence purchasing risk taking becoming a significant predictor of supply chain performance. Our finding on purchasing risk taking being the variable with the strongest impact agrees with Ammer (1989) who asserts that the first stage towards developing strategic purchasing is the willingness of the purchasing function to take risk. This explains why the SMEs are increasingly taking risks in the area of purchasing so that it can grow into a strategic area so that they are guaranteed of benefiting from procurements in the public sector. The pressure for SMEs to make procurement a strategic function and improve purchasing knowledge and skills stems from the fact they (SMEs) are under pressure to improve their procurement processes and given that majority of suppliers to the public entities are SMEs. .

The finding that purchasing knowledge and skills and strategic purchasing disagrees with the works of Carr and Smeltzer (1997), Beamon (1999), Quayle and Quayle (2000) and Wheatley (1998) implying that the assertion that these two variables improve supply chain performance cannot be generalised to SMEs in Kampala District in Uganda. This study therefore provides a new insight in explaining SME supply chain performance in the Ugandan context. The fact that purchasing knowledge and skills and strategic purchasing are not significant predictors can be explained by a number of reasons. First and foremost, 56% of the respondent firms did not have purchasing departments to oversee the purchasing related activities. Purchasing was considered as part of departments like accounting and finance or administration. A purchasing department in a firm is charged with the responsibility of recruiting qualified
people to undertake purchasing related activities and supervising purchasing related activities, of which strategic purchasing is one of them. Secondly, majority of the persons handling purchasing activities in the respondent firms were not qualified in purchasing and supply chain management, further explaining the fact that purchasing knowledge and skills is not a significant predictor. When the persons handling the purchasing activities, do not have the required knowledge and skills, then it is not possible for them to effectively undertake the role of strategic purchasing that involves planning for the purchasing function, designing and implementing strategies to realise the plan. Strategic purchasing requires high level knowledge and skills in purchasing in which one has to be trained. Thirdly, the limited purchasing knowledge and skills in SMEs which are private is possibly due to the fact that focus on developing purchasing knowledge and skills in Uganda has been on the private sector. The Government of Uganda through the Public Procurement and Disposal of Public Assets Authority (PPDA) has expended a lot of money and effort towards improving purchasing knowledge and skills in the Public and Disposing Entities (PDEs). However, the PPDA Compliance Audit Report (2008) revealed that there is still a shortage of purchasing knowledge and skills in the public sector. If the public sector where effort is being placed is still limited in the knowledge and skills area, what is expected in the private sector where there is very minimal or no effort at all? Fourthly, many SMEs do not consider purchasing /procurement to be of strategic importance and because of this managers and owners do not see why there should be an entire department in charge of purchasing management. These departments are also seen as cost centres that will require hiring of more employees who will increase on the salary budget. In his study of purchasing management practices in Botswana, Msimangira (2003) established that staff undertaking purchasing activities were greatly uninspired by the fact that managers do not realise and recognise the importance of purchasing professionals. Lastly, purchasing knowledge and skills and strategic purchasing are not significant predictors of supply chain performance because they are not enforced across an entire supply chain. One or two firms along a chain may employ qualified purchasing professionals and undertake strategic purchasing but if this is not done across the entire chain, the effect is eroded such that the impact of those undertaking these activities on the performance of the supply chain is not significant.

CONCLUSION

Our study provides a unique finding on the relationship between the components of procurement practices and SME supply chain performance, which has not been widely studied in Uganda. While strategic purchasing had been found to be a significant and positive predictor of SME supply chain performance, our finding disagrees with this position because it was found that an increase / improvement in strategic purchasing activities instead creates a decline in SME supply chain performance. We also contribute to an understanding of the extent to which factors like procurement practices explain the variation in the supply chain performance. Many factors that affect SME performance in Uganda have been analysed but the area of procurement has not received adequate focus in examining the impact of its components on SME performance. Given that purchasing risk taking and knowledge and skills are significant predictors of SME supply chain performance, effort should be made towards improving them in order to improve the performance of the SMEs.

IMPLICATIONS OF THE FINDINGS

Management of SMEs should focus on developing purchasing risk taking abilities before focusing on purchasing knowledge and skills and strategic purchasing. Ammer (1989) asserts that before the strategic function of procurement can develop, it has to first learn to take risks. When the risk taking abilities have been developed, then staff handling procurement related activities will be able to handle strategic purchasing activities. Capacity in purchasing risk taking can be developed by collaboration amongst entities like Public Procurement and Disposal of Public Assets Authority (PPDA), Uganda Small Scale Industries Association (USSIA), Ministry of Trade, Industry and Tourism and Private Sector Foundation of Uganda (PSFU). There is need to study further the other factors explain the performance of SME supply chains given that the components of procurement practices explain only 19.4%.

LIMITATIONS OF THE STUDY AND AREAS FOR FUTURE RESEARCH

Our study is limited by a number of factors and we discuss the factors in this section and also recommend directions for studies in future. Our sample was composed of SMEs found in Kampala District and leaving out SMEs in other districts in Uganda. Our findings cannot therefore be generalised across the entire country. Studies in future can extend to other parts of the country, because the results may vary. The classification of SMEs that was obtained from the Uganda Bureau of Statistics for this study classified the SMEs into only 5 sectors, namely construction, manufacturing, education, hotels and restaurants, retail. It
is from this list that we selected the SMEs. The classification ignores SMEs in other sectors, making it hard to extend our findings to these sectors. It is recommended that studies in future extend to some of these sectors like agro-processing, garment, etc.

Respondents were persons in charge of handling purchasing activities and yet there are other people in the firms whose decisions affect procurement practices and supply chain performance. These persons who were excluded include purchasing committee members and user departments. This study therefore missed out on the vital information that these other groups of people would have provided. In future, studies should take into account all categories of people that should provide the information needed to realise the objectives of the study.

Practices are gained over time, so in order to examine the true nature of practices as well as supply chain performance, a longitudinal study is necessary. We recommend that a longitudinal study to examine procurement practices in Ugandan SMEs be undertaken in future.

Our model explained on 19.4% of the variation in supply chain performance. This is a low percentage implying that we left out a number of other variables that explain the variation in the supply chain performance of SMEs. We recommend that other factors like macro-environmental factors like regulations that govern business operations, political factors, etc., be studied to determine how the impact supply chain performance.

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