

The Impact of Supply Chain Management on South African Local Government Municipalities' Financial Performance

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Abstract

The aim of the study is to evaluate the impact of supply chain management (SCM) on the operations of Ekurhuleni Metropolitan Municipality (EMM), a local municipality in the Gauteng Province of South Africa. This aim is intended to enhance supply chain management efficiency and effectiveness at EMM and other related local government municipalities in South Africa with a view to enhance institutional performance. The study was necessitated by the wide spread reported SCM challenges facing the South African local government. Quantitative research, descriptive research and explanatory research were employed in the investigation. The findings of the study confirmed that SCM has a positive and significant impact on the financial performance of the metropolitan municipality.

Introduction

Supply chain management is critical in the financial management for the public sector in South Africa. An ineffective and inefficient supply chain management leads to poor financial management in any entity whether public entity or private entity. EMM has been struggling with weaknesses in its supply chain management system (Legodi 2017:58). In the 2016/2017 financial year the metropolitan municipality failed to get a clean audit. This was largely attributed to irregular, fruitless and wasteful expenditure (Annual Financial Report 2017).

The government has put measures in place to ensure the local government municipalities like EMM enhance their supply chain management function. Upon attaining democratic rule in 1994, the South African government put in place budgetary and financial reforms on supply chain management (Ambe & Badenhorst-Weiss, 2012:245). The reforms were earmarked to modernise the supply chain management as well as to meet the needs of communities. The supply chain management reform is articulated in Section 112 of the Municipal Financial Management Act No 56 of 2003 (MFMA) and in 76(4) (C) of the Public Finance Management Act No 1 of 1999 (PFMA) (Ambe & Badenhorst-Weiss 2012:245). Thus, the reforms in procurement in the public sector are made mandatory by existing Acts of Parliament. This makes non-compliance with the reforms a criminal offence.

The National Treasury is at the forefront of ensuring all public sector institutions are complying with reform clauses in the MFMA and PFMA. There is also the Auditor General South Africa (AGSA), an independent public external audit institution that audits the public sector institutions annually to ensure they are complying with relevant clauses in the MFMA and PFMA.

Despite the efforts of the National Treasury to capacitate personnel in local government municipalities with relevant skills, implementation of supply chain management remains a challenge in the municipalities (Ambe & Badenhorst-Weiss 2012:11003). According to Ambe and Badenhorst-Weiss (2012 :11003), major deficiencies relating to supply chain management in local government municipalities relate to procurement policies, procedures and controls. This study has been carried out in the context of supply chain management deficiencies in the local government municipalities despite the efforts by the government to enhance supply chain management systems in the public sector. The Ekurhuleni Metropolitan Municipality is not an exception to the supply chain management weaknesses that are being faced by other municipalities in South Africa.

Literature Review

Challenges of Supply Chain Management

The South African public sector is experiencing several challenges relating to supply chain management despite the regulations enacted by the national government. This can be supported by the fact that only 13% of local government municipalities achieved a clean audit in the 2016/2017 financial year (AGSA 2018 :3). Thus, 87% of the local government municipalities failed to get a clean audit as a result of poor financial management or weaknesses in the supply chain management system. Mnguni and Subban (2022:157) identified poor contract management, uncompetitive or unfair procurement processes and awarding of tenders or contracts to employees in the service of the state. The poor financial management is crippling the service delivery by the local government municipalities, making the municipalities to make financial losses and exacerbating wasteful expenditure which is a critical factor in driving corruption (AGSA 2018:7). In the 2016/2017 financial year, the total wasteful expenditure for the local government municipalities amounted to R1.5 billion. Wasteful expenditure is expenditure incurred in the process of not complying with existing regulations like PFMA, MFMA, BBBEE and PPPFA. The main challenges of supply chain management in the South African public sector relates to non-compliance with policy and regulations, fraud and corruption and conflict of interest as discussed below.

Non-Compliance with Policy and Regulations

Non-compliance with supply chain management policies and regulations is common in local government municipalities (Moos 2017:21). The non-compliance includes appointment of suppliers who are not tax compliant, lack of appropriate bid committees, failure to use competitive processes for bids and quotations, extension of validity periods and insufficient motivations from deviating from supply chain management procedures and policies (National Treasury 2015:10). Fourie (2018:11) points out that non-compliance with policy and regulations in local government is evidenced by weak supply chain management policies, failure to have fraud reporting mechanisms and failure to investigate possible fraud. The non-compliance with policies and regulations can be as a result of lack of understanding of the policies and regulations due to incompetence (National Treasury, 2015:10). However, the non-compliance can also be as a result of wilful violations driven by corruption.

Fraud and Corruption

Fraud and corruption are the major challenges for the public sector supply chain management (National Treasury, 2015:20). There are many laws to regulate fraud and corruption which include the Constitution, Competition Act, the Prevention of Organised Crime Act, the Prevention and Combatting Corrupt Activities Act, PFMA and MFMA (Maharaj and Karodia 2013:48). Maharaj and Karodia (2013:49) report that the public sector in South Africa is losing billions of Rands through fraud and corruption with very few culprits being prosecuted. In some instances the government has instituted commissions to investigate alleged corruption without implementing proposed recommendations. The prevalence of fraud and corruption in the public institutions is therefore largely as a result of failure by public institutions to adhere to existing legislations.

Conflict of Interest

Conflict of interest is a major challenge in the government procurement system (Letshedi 2015:37). Some male suppliers may use their female relatives or people with disabilities to get tenders in line PPPFA (Maleka 2016:62). Thus, the supplier chain management system for public institutions are affected by fronting. The fronting can be done with or without the knowledge of the government officials. The government supply chain management officials might the fronting in exchange of financial benefits from the benefiting suppliers. It is also against public sector procurement regulation for government employee to be involved in business with the government (Maleka, 2016:62). Employees often disguise conflict of interest in ways which may be sophisticated and difficult to detect; nonetheless, preventive approaches must be adopted (Zindi & Sibanda 2022:4). Close relatives and people who left government employment in less than 12 months ago are also required to declare their interest in the declaration forms which are submitted together with the bids (Malekan 2016:62). Despite all these clear regulatory policies, some government have been involved in business with the government through fronting. Public officials should declare conflicts of interest when they join the public sector and annually thereafter, as required by the Code of Ethics (Zindi & Sibanda, 2022:4). Some close relatives of government employees or people who left government employment in less than 12 months ago have failed to declare their interest. This disadvantage other bidders as the close relatives and people who left government employment recently might receive favourable decisions in the evaluation of the bids. If left unchecked, conflict of interest compromises the integrity of public sector organisations (Zindi & Sibanda 2022:4).

Impact of Supply Chain Management on Organisational Performance

The impact of supply chain management on organisational performance has been looked at from different perspectives (Adaku, Famiyeh, Anderson & Amoako-Gyampah 2016:3). This is because there are many factors that can be used in measuring organisational performance. Organisational performance refers to how well an organisation meets its financial goals and non-financial goals (Lang & Cheng 2012:217). Thus, in general organisational performance can be measured using both financial and non-financial criteria. The non-financial performance factors include quality of service, resource planning, innovativeness, staff productivity and process speed (Adaku et al. 2016:3). On the other hand, the factors for measuring financial performance are profitability, sales growth, reduction in costs and return on investment (Lang & Cheng 2012:217).

There is a positive and significant relationship between operational performance of an organisation and supply chain management (Adaku et al. 2016:3). According to Adaku et al. (2016:3), the extent to which a bank invest in logistics practice, close collaboration with their suppliers and in risk management leads to higher operational performance for the organisation. Lang and Cheng (2012) are of the opinion that supply chain practices like information and technology management, resource management, supplier relationship management, customer relationship management and demand has a positive relationship with organisational performance encompassing both operational performance and financial performance.

There is a positive and significant relationship between supply chain management and financial performance as measured by profitability (Marhamati, Aziz & Marhamati, 2017:138; Wahdan & Emam, 2017:143). Wagner (2012:353) also found that supply chain management practices have a positive impact on return on investment (ROI), return on assets and liquidity. The improvement in profitability is attributed to improvement in sales revenue and reduction in operating costs as a result of the supply chain practices (Wahdan & Emam 2017:137). Based on this empirical evidence, it can thus be concluded that supply chain management can be used in organisations to enhance financial performance as measured by profitability, sales growth and operation costs.

Methodology

The quantitative research methodology and explanatory research design have been used in the study to make it possible test to the relationship between SCM and EMM financial performance. This is supported by Cohen, Manion and Morrison (2007:515) and Fraenkel, Wallen and Hyun (2012:332) who explain that quantitative research and explanatory research are appropriate when testing the relationship between two or more variables. The population for the study are the entire 117 employees in EMM's Finance Department. Simple random sampling was used to select a sample of 100 employees from the 117 employees. Simple random sampling technique gave each member of the population an equal chance of being selected (Sharma, 2017:750). Raosoft sample size calculator, an online calculator, was used in calculating the sample size. In the sample size calculation, acceptable margin of error was set at 4%, confidence level at 95% and a response distribution at 50%.

Questionnaires were used in the data collection as they are the appropriate data collection instruments in the quantitative research employed in the study (Cohen et al., 2007:321). Self-administering questionnaires were used in order to limit researcher bias (Fraenkel et al. 2012:399). The research participants completed the questionnaires on their own without being influenced by the researcher. Inferential analysis was used in analysing the collected data. This quantitative analysis technique was used to determine the nature and significance of the relationship between financial performance of Ekurhuleni Metropolitan Municipality and SCM as measured by SCM practices. This was necessary as inferential analysis is used to evaluate the nature and significance of the relationship between two or more variables (Pandey & Pandey 2015:72). Pearson's correlation coefficient and linear regression were used as part of inferential analysis to understand the nature and significance of relationship between SCM and financial performance of EMM.

Results

In the inferential analysis SCM practices were treated as the independent variables while financial performance as measured by profitability of the municipality was used as the dependent variable. The SCM practices used as independent variables are management commitment to SCM, deploying of adequate financial and non-financial resources to the SCM department by management, complying with SCM regulations, stakeholder relationship management, employee training and development on SCM, risk management, and use of user friendly information technology in SCM processes and activities.

Correlation Analysis Results

Pearson correlation coefficients from correlation analysis are presented in Table 1 below.

Table 1. Pearson's Correlation Coefficients

	Financial Performance (Profitability)
Finance performance (profitability)	1.0000
Management commitment	0.4021
Deploying adequate resources	0.0202
Regulations compliance	0.4481
Stakeholder relationship management	0.0818
Employee training and development	0.0284
Risk management	0.2772
User friendly information technology	0.0529

The positive correlation coefficients in Table 1 above indicate that there is a positive relationship between financial performance and SCM as measured by SCM practices. According to Saunders et al. (2009:459), correlation coefficient values of above 0 up to 0.3 entails weak correlation while correlation coefficient values of between 0.3 and 0.7 entails moderate correlation. It therefore follows that SCM practices with weak correlation with financial performance are deploying of adequate resources, stakeholder relationship management, employee training and development, risk management and use of user-friendly information technologies. However, management commitment to enhancing SCM and compliance with SCM regulations have a moderate correlation with financial performance as measured by profitability. The results indicate that an improvement in the 8 SCM practices has a corresponding increase in the financial performance of the metropolitan municipality.

Linear Regression Results

The linear regression was performed at 95% confidence level with finance performance as measured by profitability as the dependent variable and SCM practices as the independent variables. The linear regression results on the impact of the aggregate SCM practices on the profitability of the municipality are given in the following Table 2.

Table 2. Significance Testing Results

Finance performance (profitability)	Coefficient	P-Value
Management commitment	2.04591246	0.0307**
Deploying adequate resources	2.57253076	0.0494**
Regulations compliance	2.48623805	0.0121**
Stakeholder relationship management	2.16146233	0.0244**
Employee training and development	0.173255464	0.9129*
Risk management	0.578717402	0.5230*
User friendly information technology	0.55627692	0.5428*
Constant	2.161514	0.003

NB: Significant = **; Insignificant = *

Table 2 above is showing that the first four SCM practices with a p-value of less than 0.05 have positive and significant relationship with profitability of the municipality while the last three SCM practices with a p-value of greater than 0.05 have insignificant positive relationship with the municipality's profitability. The SCM practices with positive and significant relationship with EMM profitability are management commitment to SCM, deploying of adequate resources in SCM unit by management, complying with SCM regulations like PFMA and MFMA, and managing relationships with stakeholders like suppliers. These four SCM practices are found to have

a positive and significant effect on the financial performance of institutions in existing empirical evidence (Emamisaleh & Rahmani, 2017; Guhring, 2017; Nyamasege & Biraori, 2015). The results indicate that EMM can enhance its profitability by improving management commitment to SCM, deploying adequate resources in the SCM unit, complying with SCM regulations and improving relationships with suppliers. Training and development of employees on SCM, risk management and use of user friendly SCM information technology were found to have an insignificant positive relationship with profitability of the municipality. The municipality can therefore not use training and development of employees on SCM, risk management and use of user-friendly information technology to enhance its profitability.

A hypothesis that there is a positive and significant relationship between SCM and financial performance at EMM and other related local government municipalities is accepted based on the results of positive and significant relationship between profitability on one side and management commitment to SCM, deploying of adequate resources in SCM unit by management, complying with SCM regulations and managing relationships with stakeholders like suppliers on the other side.

Conclusion

It can be concluded that there is a positive and significant relationship between financial performance and SCM practices at EMM and other related local government municipalities in South Africa. However, not all SCM practices have a positive and significant relationship with financial performance at EMM and related local government municipalities. Training employees on SCM, adopting user friendly SCM information technology and investing in risk management in SCM have insignificant positive relationship with financial performance. EMM and other related local government municipalities are advised to enhance management commitment to SCM, deploying of adequate resources in SCM unit, complying with SCM regulations and improving relationships with suppliers and other stakeholders in order to enhance their financial performance.

Recommendation for Future Research

Future researchers in related topic are advised to expand the population for the study to include Finance Department employees from the 205 local government municipalities across the country and select a sample using probability sampling technique. This is to ensure the results of the study are representative of all the local government municipalities in South Africa. It is problematic to generalize the results of the current study to all the local municipalities in South Africa based on the views of employees of a single local government municipality out of 205 local government municipality in the country.

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