

AN INVESTIGATION INTO SUPPLY CHAIN MANAGEMENT PROCESSES EFFICACY AND SERVICE DELIVERY ENHANCEMENT IN THE CITY OF JOHANNESBURG METROPOLITAN MUNICIPALITY

Soni, Manqoba Sinothile Mholi

ILOHM (Pty) Ltd, 21 Wild Current Street, Greenstone Hill, 1609, P.O. Box 7062, Greenstone, 1616

Kajimo-Shakantu, Kahilu

Department of Quantity Surveying and Construction Management, Univeristy of the Free State, Bloemfontein, South Africa

Abstract

There is a general lack of advance planning for Supply chain management (SCM) processes and the lengthy processes involved impact negatively on municipal construction projects. The study investigated stakeholder's perceptions of the improvement attempts being made in SCM processes for construction projects and service delivery in the City of Johannesburg (CoJ), South Africa. An empirical study using one municipality was undertaken through the administration of questionnaires. Key findings showed that respondents were of the view that SCM processes related functions are well defined, service delivery is not improving while the organisation encourages implementation of project management processes that are harmonised with its SCM processes. The study concludes that the SCM processes of the municipality under study are somewhat improving and current legislation has a positive effect. However, there is room for improvement to streamline the processes in order to reduce the bureaucracy which impacts negatively on the commencement and performance of construction projects. The study only involved one municipality therefore the sample size and geographical limitations may reduce the generalisability of the results. The study is relevant to various stakeholders as it enhances the understanding of how improved SCM processes can contribute to the overall performance of construction projects.

Keywords: Supply Chain Management, Service Delivery, Construction Project Management

1 Introduction

1.1 Problem identification

McCarthy (2006) claims that there is lack of capacity and limited knowledge about supply chain management processes in the public sector which affects the effectiveness and efficiency of procurement processes, leading to poor governance. Similarly, Luyt (2008) contends that poor planning and poor budgeting amongst government entities result in inadequate implementation of supply chain management processes. Amber & Badenhost-Weiss (2011) reported the following challenges; lack of knowledge, skills and capacity, non-compliance with supply chain policies and regulations, inadequate planning and poor linking of demand to the budget, accountability fraud and corruption, inadequate monitoring and evaluation of supply

chain management processes, unethical behaviour, over decentralisation of the procurement system and ineffective Black Economic Empowerment Policy.

There is generally a problem in terms of planning of projects as sometimes it happens that after planning City of Johannesburg (CoJ) officials find themselves having to execute projects that were not budgeted for due to pressure to deliver services to communities that are affected by non-availability of critical basic services (City of Johannesburg 2007). This often makes the planning process for projects redundant. Further, small and medium contractors are increasingly demanding to be appointed as sub-contractors on big projects even when they do not qualify therefore undermining the system and the Supply chain management (SCM) processes (City of Johannesburg 2007). Despite the availability of various legislations such as the Preferential Procurement Policy Framework (PPPF), Municipal Supply Chain Management Regulations and the Municipal Finance Management Act, the CoJ still has ineffective and long supply chain management processes for construction projects, as well as other challenges relating to service delivery enhancement.

1.2 Purpose and importance of the study

The purpose of the study is to investigate the SCM processes for construction projects in the CoJ and service delivery with the view to optimising SCM processes for construction projects and service delivery. The study also seeks to evaluate the quality of training and development provided by the CoJ on related SCM processes and service delivery procedures, policies, strategies and legislations. A further objective is to assess the effectiveness with which top management addresses procurement and service delivery related issues. This study will benefit not only the CoJ as an organisation through improving its SCM processes, but also the residents of Johannesburg through efficient delivery of construction projects and better municipal capital spend. Both the beneficiaries and small and medium enterprises will also benefit, as their construction projects will be finished on time without the fear of having contract price adjustments and penalties for late completion. This research project seeks to investigate the supply chain management process efficiency of construction projects and whether the CoJ is enhancing its service delivery to Johannesburg residents.

The outcome of the study will assist the CoJ to better manage construction projects in terms of time management within scope, quality and the allocated budget. It is hoped that some activities during the supply chain process would be done simultaneously in order to reduce the CoJ SCM bureaucratic processes, therefore ensuring the timely completion of construction projects.

2 Literature Review

2.1 Implementation of Supply Chain Management

European Union (2010) states that challenges in the public sector include the non-existence of follow up routines and effective reporting which impede strategic and methodical developments of a particular organisation in terms of its procurement management system applications. According to van der Waldt (2001), most spheres of government utilise project management to execute facility delivery programmes in the form of construction projects. Van Der Waldt (2001) asserts that while project and programme management is a tool-kit to improve facility delivery, by and large managers in the public sector do not know how to apply project management principles, i.e. they tend not to equip themselves through relevant courses. This is an indication that in order for the CoJ to succeed in improving their procurement systems it will have to harmonise project management and procurement systems. Therefore, the entire organisation and its systems, including procurement, should support projects' management in order for them to work effectively (Van der Waldt, 2007). The Project Management Capability Delivery Framework is one of the tools that is recommended to

manage projects successfully and therefore achieve service delivery in marginalised areas. It should also be noted that vision and strategy are part of what this framework can deliver (Marnewick, 2010). Lessons, failures and successes should be learned from previous projects in order to improve service delivery (Brown, 2005).

The CoJ currently uses the project life cycle model when implementing construction projects as illustrated in Figure 2.1, which assists in the planning process aimed at demonstrating how the projects' outcomes will be achieved successfully within the required timescale, scope, quality and the agreed budget. The project life cycle model is a useful way of understanding the different phases of a project as it progresses (Martin, 2008). The challenge is that this life cycle model is not harmonized with the procurement process in the CoJ which includes compiling of bids, advertising, closing of bids, bid evaluation as per PPPFA and recommendations, adjudication of bids and final award as well as compiling of service level agreements and contract documents. This implies that these two processes are utilized separately, and as a result projects are not finished on time due to delays (City of Johannesburg, 2007).

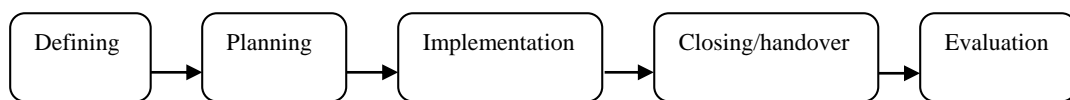


Figure 1. Project life-cycle model (Martin, 2008)

The above misalignment occurs between the defining and the planning stage when the built environment and engineering consultants are appointed, as well as during the planning and the implementation stage when the main contractor, sub-contractors and nominated contractors are appointed. Lastly supply chain management has become an important matter for some organisations to gain their competitive edge (Shi-Jie, Chen and Huang, 2007).

2.2 Service delivery theme

There are many public sector projects in South Africa which are not executed within the predetermined parameters of cost, time and quality and which also experience delayed payments (Baloyi and Bekker, 2011). An example of such is the construction of 104 housing units in Saulsville in Tswane (City of Tswane Municipality) with a cost of R85 million which were delivered with defective or poor quality (Mogomotsi, 2013). This reflects a waste of resources as well as poor service delivery to the intended beneficiaries. Public procurement in South Africa has since 1994, become an important tool to deliver wider social, economical and political objectives (Bolton, 2006). This is due to government's procurement capacity and its dual role as a regulator and purchaser. The way decisions are taken regarding with whom and how much to contract with has implications for various industry players and intended beneficiaries. Bolton (2006) argues that the leverage of the South African government to use procurement as a policy tool has encountered various challenges.

Russell and Bvuma (2001) explain that service delivery is a focal point on which the public service is most probably judged, especially in a country where service delivery benefits the poor communities. There are three key service delivery improvement initiatives in the country:

- Batho Pele;
- Public-private partnerships; and
- Alternative service delivery routes (Russell & Bvuma, 2001: 244-245).

In analysing the problem in conjunction with service delivery, officials at the CoJ are not motivated and their individual needs are not catered for, hence they are allegedly not seen to not be taking their work seriously and thus perpetuating poor service delivery. Employees in

the CoJ are often on strike and the communities, especially poor people, are frequently protesting. Abraham Maslow established a theory to illustrate the effects (i.e. individual needs) that motivate human behaviours (Robbins and DeCenzo, 2001: 314). Using Maslow's theory, it can be deduced that certain needs of officials of the CoJ need to be met for them to function well and for Johannesburg residents to receive quality services. This becomes evident when the executive management looks to increase salaries every year, as the South African Municipal Union (SAMU) rejects offers for salary increases and also highlights issues such as working conditions, health benefits, lack of tools, housing subsidies, car allowances, performance bonuses, favouritism, temporary/contract employment and unfair treatment by top management. Strikes have become a norm every year in the CoJ for all departments and Municipal Owned Entities (MoEs), while communities also protest about poor service delivery (City of Johannesburg, 2007). All these issues highlighted above affect the SCM processes.

3 Research Methodology

The empirical study used a case study approach using structured questionnaires to solicit respondents' views as indicated in Tables 1 and 2. The objective was to determine perceptions on the duration of the SCM processes, and the way construction projects are affected by the SCM bureaucratic processes including service delivery enhancement. Purposive sampling was used in the study. The sample was selected from the total population of CoJ employees who met the selection criteria, namely those that operated in certain departments and entities such as the Department of Environment, Infrastructure and Services; the Department of Development Planning and Urban Management; the Johannesburg Development Agency; Jo'burg Water; City Power; Pikitup; the Johannesburg Roads Agency, nine regions and the Department of Housing as indicated in Table 1.

Table 1. Size of the sample strata and response rate to the questionnaires

Departments and Entities	Proposed		Actual	
	No.	%	No.	%
Department of Infrastructure and Services	5	12.5	5	12.5
Department of Planning and Urban Management	5	12.5	5	12.5
Department of Housing	5	12.5	5	12.5
Department of Environment Management	5	12.5	5	12.5
City Power	5	12.5	5	12.5
Jo'burg Water	5	12.5	4	10
Johannesburg Development Agency	5	12.5	5	12.5
Pikitup	5	12.5	5	12.5
Total	40	100	39	97.5

The reason for this purposive sampling was that these entities, departments and regions deal with SCM in construction projects as well as service delivery related matters more often. Table 1, indicates that a high response rate of 97.5% was achieved. During the study, each department, entity and regional office was contacted telephonically so as to enquire who the appropriate Executive Director, Managing Director and Regional Directors to approach for permission to conduct a survey in their respective departments, entities and regions would be.

Table 2. Positions held by respondents in their representative organisations

Positions held by respondents in terms of management levels of operation (%)				
Senior management	Middle level management	Officer	Supervisor	Other
34.2	44.7	7.9	7.9	5.3

Table 2 shows that the majority of the respondents (78.9%) who implement construction projects using the SCM process operate at a senior management and middle management level and therefore are knowledgeable enough for the study. An introductory letter which outlined the purpose and objectives the study as well as request consent was sent to the respondents.

4 Findings and Discussion

Respondents were presented with statements related to procurement processes and infrastructure/service delivery by the CoJ, to which they needed to indicate the extent of their disagreement on a 5-point Likert scale where 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree. The findings are ranked in terms of their mean scores (MSs) based on the percentage responses to the 5-point scale with 1.00 as a minimum value and 5.00 as a maximum value based on the percentage indicating the degree of concurrence of the statements (see Table 3 below). The Cronbach's alpha was used to determine the reliability or consistency of the measure. The Alpha coefficient ranges in value from 0 to 1 and was used to describe the reliability of factors extracted from dichotomous (questions with two possible answers) and/or multi-point formatted questionnaires or scales, e.g. rating scale: 1 = poor to 5 = excellent. Only the statements with an acceptable alpha value of more than 0.5 were used in this study. The values ranged from 0.5 to 0.90. The data were analysed using basic statistics as presented and discussed in the next section. The results are presented in Tables 3 and 4 below.

Table 3. SCM processes and service delivery

	Aspect	Response (%)					Mean Score
		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	
1.1	Your procurement SCM related functions are properly defined at the CoJ as an employee.	7.9	13.2	21.1	28.9	28.9	3.6
1.2	You are properly trained on SCM processes at the CoJ.	10.3	28.2	17.9	25.6	17.9	3.1
1.3	The CoJ is perceived to be delaying construction projects through inefficient SCM processes.	15.8	28.9	15.8	31.6	7.9	2.9
1.4	The CoJ is currently not improving SCM processes.	10.3	30.8	38.5	17.9	2.6	2.7
1.5	Despite the existing policies, programmes and legislation the CoJ is unable to implement its SCM processes.	25.6	30.8	35.9	5.1	2.6	2.3
1.6	Legislation has not negatively impacted on SCM processes.	20.5	25.6	20.5	30.8	2.6	2.7
1.7	You are properly trained on service delivery programmes of the CoJ.	2.6	20.5	15.4	35.9	25.6	3.6
1.8	The CoJ is perceived by Johannesburg residents to not be properly delivering services.	10.3	28.2	20.5	20.5	20.5	3.1
1.9	The CoJ is currently not improving on service delivery.	28.2	23.1	28.2	17.9	2.6	2.4
1.10	Despite the existing policies, programmes and legislation the CoJ is unable to deliver on its services effectively and efficiently.	20.5	28.2	10.3	30.8	10.3	2.8
1.11	Legislation has not positively impacted on service delivery.	5.1	35.9	17.9	38.5	2.6	3.0

Based on the Mean scores (MSs), the key findings are as summarised in Table 4.

Table 4. Training and top management involvement in SCM processes

	Aspect	Response (%)					Mean Score
		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	
1.1	Top management at CoJ monitors the various stages of currently existing SCM processes.	12.8	10.3	20.5	25.6	30.8	3.5
1.2	Top management at CoJ is involved in the process of evaluation and monitoring of SCM processes.	7.7	12.8	25.6	38.5	15.4	3.4
1.3	Officials are fully involved in the implementation of the SCM processes policies.	7.7	7.7	33.3	41.0	10.3	3.4
1.4	The CoJ offers training and education on SCM processes.	7.7	17.9	33.3	33.3	7.7	3.2
1.5	CoJ encourages the implementation of project management processes that are harmonised with its SCM processes.	5.1	20.5	23.1	38.5	12.5	3.3
1.6	Top management at CoJ monitors and evaluates service delivery.	2.6	17.9	12.8	48.7	17.9	3.6
1.7	The CoJ addresses clients' complaints within reasonable turn-around times on service delivery related issues.	17.9	20.5	28.2	20.5	12.8	2.9

The main findings of the study from the two tables are discussed further below.

4.1 Discussion of key findings

From Table 4.1, the items “top management in the organisation monitors and evaluates service delivery” scored the highest mean score of 3.6 followed by “top management at CoJ monitors the various stages of currently existing SCM processes” with a mean score of 3.4. These are encouraging results and put the organisation in better light. It was also found that CoJ encourages the implementation of project management processes that are harmonised with its SCM processes (mean score of 3.3). However, it emerged that “CoJ does not address client complaints within reasonable turn-around times on service delivery related issues” as it showed the lowest mean score of 2.9, undermining the image of the organisation. As Russell and Buvma (2001) indicated in the literature, service delivery is one important parameter on which the public sector is judged. From table 4.2, the following findings can be highlighted as: SCM processes related functions are properly defined in the organisation to employees (3.6 mean score highest mean score) and the organisation is currently not improving SCM processes (2.4 mean score second lowest). While the organisation under study is perceived as not properly delivering services or addressing client complaints within reasonable turn-around times on service delivery issues, the respondents were also of the view that “CoJ is improving its SCM processes and service delivery”. The results suggest that there is an effort to improve both SCM and service delivery.

The study also investigated respondents' perceptions on the training of employees in the organisation on SCM processes. A key finding was that; CoJ offers training and education on SCM processes (mean score of 3.4). They are also properly trained on the service delivery programmes of the CoJ (3.1). However, the results show that most of the respondents were not

formally trained in the Preferential Procurement Policy Framework Act as well as the Public Finance Management Act (PFMA), but were mostly trained in the Constitution of the Republic of South Africa, the Municipal Finance Management Act and the Local Government: Municipal Systems Act.

On the aspect of strategic leadership, respondents believe that SCM process-related functions are properly defined for them to perform their duties as this scored the highest mean score of 3.6. Results also show that top management monitors the various stages of currently existing SCM processes and is involved in the process of evaluation and monitoring of SCM processes. The results also show that top management at the CoJ monitors and evaluates service delivery and that it is relatively easy for top management to monitor and evaluate procurement and service delivery processes because most employees who deal with the SCM process of construction projects and service delivery operate at a middle management level. Top management is addressing the SCM and service delivery related issues. However despite the existing SCM policies, programmes and legislations available, the CoJ is unable to implement its SCM processes adequately as the results indicate the lowest mean score of 2.3.

5 Conclusions and Recommendations

The study sought to investigate the enhancement of SCM processes and service delivery by the CoJ by investigating top management involvement and formal training opportunities among others on on SCM and service delivery policies. The study found that while top management seem to be involved in the implementation and monitoring of SCM and service delivery, the SCM processes are not fully optimised and the organisation is not able to handle client complaints within reasonable turn-around times particularly on service delivery related issues. The study concludes that the SCM processes of the municipality under study are somewhat improving and current legislation has a positive effect. However, there is potential for improvement to streamline the processes in order to reduce the bureaucracy which impacts negatively on the commencement and performance of construction projects. There is room for harmonisation of project management processes with SCM processes to enhance performance. Further studies on technical skills and relevant education should be conducted and there is also a need to explore reasons for the many service delivery protests and the failure to attend to complaints within the stipulated time lines. Studies in other municipalities should also be undertaken to determine if similar results will obtain.

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