

A Case for Deepened Construction Supply Chain Management in South African State-Owned Enterprises

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Abstract: The purpose of this paper is to present the preliminary literature findings of a research project. The main project is set out to identify, analyse and report on performance requirements, mechanisms and actions required to address the performance of construction related small and medium size enterprises (SMEs) that are providing services for state owned enterprises (SOEs) in South Africa. The need for the project arose from the view that the absence of performance evaluation mechanism leads to the poor management of the performance of organisations involved in most SOE supply chain. This inevitably led to none creation of expected value in the system. Through a related literature study, the findings that have emerged so far suggest that it is notable that the SMEs related programmes in SOEs have not address performance and relationship management within their supply chain strategy in explicit terms as there is less or no means to record, measure and enhance SME contributions. These SMEs also recognise the fact that when their performances are poor and / or good, there is no difference and / or feedback mechanism to record it.

Key words: Construction, supply chain management, South Africa.

1. Background

There are many initiatives by private and public organisations that are committed to developing SMEs in South Africa. Major firms are assisting their suppliers to become more sustainable; not just in terms of providing services to them, but also with respect to economic viability. This area of responsibility does, however, pose business strategic challenges to corporations with regards to supply chain management (SCM) [1].

PetroSA is a leader in an initiative called the Supplier Developments Programme (SDP) in South Africa. The programme is aimed at assisting Historically Disadvantaged Individuals (HDIs) that own most SMEs to gain entry into the oil and gas sector [2]. PetroSA operates and owns 45 000 barrels per day plant in Mossel Bay, which uses indigenous gas resources as base feedstock. This base feedstock is supplemented by imported reformat and light condensate [3]. To operate

and / or carry out its day to day business and focus on its core business at the plant, there are construction related maintenance services that were found feasible to be outsourced by PetroSA. In asset intensive industries, such as automotive, metals, mining, oil and gas, process manufacturing, utilities, and the public sector, the reliability and productivity of capital assets is essential to an organization's financial success. Maintenance of these assets can dramatically impact the overall performance and useful life of an asset [4]. Such services in PetroSA are not limited to scaffolding, industrial painting, insulation and cladding, fabrication and fire equipment services.

The activities involved to execute maintenance are complex and interdependent and require different resources, specialities and / or disciplines. These complex and intensive activities open the door of opportunities for SMEs involved in the SDP. The programme, thus far, has led to the establishment of five black owned, controlled and managed businesses.

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Support provided by PetroSA includes business skills training, mentoring and coaching, technical support, as well as feasibility and viability study support. Despite these gains and greater exposure among senior management of these SMEs, there is still a lack of strategic focus and some firms still fail to think, and act, beyond performance metrics that are based on price driven measures [5]. There is clear evidence that the failures to accurately measure, evaluate, and manage the performance of project partners could increase costs, damage product quality, and hinder competitiveness in the marketplace [4]. Performance measurement of both the customer and the supplier is an important activity to ensure that the contract is delivering against specific objectives and organisational goals.

As an illustration, when major client organizations demand multiple services from a single SME, the outcome of such endeavours may fall short of expectations. Examples of such organisations include State Owned Enterprises (SOEs) in South Africa. SOEs are essential contributors in the South African economy and are active in international markets for the sourcing of capital equipment, and finance. These SOEs depend on a multitude of SMEs services in order to fulfil their organisational mandates. Thus, SME performance impact directly on the performance of SOEs and it is therefore vital for both the SOEs and SMEs to understand the manner in which they should manage performance required in an enterprise. Although small businesses fail due to a variety of reasons arising from the macro and micro market environments, common problems that are often cited and / or researched as major contributors to failure is managerial incompetence, lack of access to information, knowledge, business skills and difficulties in accessing finance.

However, limited research efforts have investigated the failure rate caused by performance related matters among SMEs in the South African context. As mentioned that there are many initiatives by private and public organisations locally that are committed to development SMEs in South Africa, it is very

noticeable that the programmes and / or initiatives initiated did not address performance management within supply chains. There are less or no means to record suppliers' contributions. It is important that suppliers recognise the fact that their performance can be regarded as either poor or excellent through feedback. The absence of monitoring and verification of performance by both suppliers and their clients gives room for negligence within SME organisations. Hence, the overarching aim of this research project is to identify, analyse and report on mechanisms required to address performance management from the perspective of SCM.

This is necessary as PetroSA and other SOEs continue to struggle with performance management within their supply chains. It however notable that this particular paper relies on the literature to make a case for the study as the research project is still at the conceptual stage.

2. The Rationale for the Study

The SCM literature shows that procuring the services of SMEs remains a very critical and attractive option, not only because it a job creation tool that supports economic growth plans of governments. The South African government, as a major shareholder in SOEs, has mandated them to change the economic landscape by developing and creating a platform for SMEs to develop into national and international suppliers. To this end, there is a responsibility to monitor the process of engaging and managing SMEs and benchmarking their performance. Despite concerted government focus on the SMEs, SOEs find themselves in a very interesting and attention-drawing position where they are rated by supplier development initiatives while observers and researchers raise serious concern about SMEs and their performance.

Shakantu *et al.* [6] contend that reduced main contractor size and increased subcontracting has manifested in the reduction of scope of operations that each firm can meaningfully undertake. They noted that

this effects of this occurrences can be seen when smaller firms operates tactically and focus on micro view of the business world. Thus the impact is that such firms are not always open to embracing best practices that would engender performance improvement in construction. Despite this apparent draw back, the media have vividly elucidated what is expected of SOEs in term of SME development and management. Although SMEs fail due to a variety of reasons, the significance of the study is to add to the existing knowledge base in SCM and to ultimately realise a base for system development for PetroSA and other organisations wishing to adopt and / or introduce supplier performance management (SPM) in their organisations. It should be noted that this will serve as a base and provide assistance to both SMEs and their customers in terms of creating systems and / or programmes to address future and long term growth plans. Furthermore, the research project may become a starting point for PetroSA in terms of realising its current position in the supplier management perspective and recommend and / or establish ways to focus and deal with performance management requirements within contract validity periods.

3. An Overview of SMEs in Construction

The lack of managerial skills has been highlighted as a major deficiency of SMEs. A lot of SMEs are not familiar with quantitative management techniques such as bar charts, critical path analysis, probabilistic PERT analysis, resource planning, cost control, and performance management. The need to acquire competencies and capabilities necessary to managing contracts efficiently is particularly important as firms often do not compete manufacturer to manufacturer; rather the true competitive battle occurs from supply chain to supply chain [7]. A company is as strong as its weakest supply chain partner [5].

Upgrading the skills of all types of workers, including managers, is central to firm performance in knowledge-based economies. The quality of management

is particularly important for SMEs, which must be able to adapt quickly to evolving markets and changing circumstances, but which often have limited resources. This demands that managers capitalise on emerging trends and are receptive to new ideas, are armed with strategic goals and challenges and make informed choices.

In addition, managers need to take cognisance of the current organisational culture and the competencies of the existing leadership when engaging in strategy formulation and implementation [8]. Additional challenges that can be seen in the literature concerning SMEs include [9]:

- Strategy is not always clear, defined or formalised by top management of firms;
- Decisions are not taken to lower levels ('family business' syndrome);
- Few resources and finances are a constant source of worry;
- Little support from external sources;
- Limited managerial skills can be found in firms, and
- The 'we do fine' syndrome is pervasive.

As a result of these features of SMEs, PetroSA's long-term goal is to involve SMEs in its business through the supply chain route that is synonymous with imported goods or services to a reasonable level in order to support its corporate strategy, while promoting local industries. It must be noted that not all localised services and goods results in direct cost reduction, but they should result in lower transport costs, shortened lead times and improved relationships with SMEs. As mentioned above, a lack of managerial skills and expertise is eradicating the benefits of localising the supply chain and is a major constraint impeding the progress of SMEs and PetroSA's projects. The primary area that had shown to be very poor within SME environment at PetroSA is planning. The management process starts with planning and it is through planning that the owner or manager decides what activities to undertake, when, how long and what is to be done next.

Business planning needs to be the first step and should reflect future intentions which may take variety of forms. It can take variety from informal to formalised plans or structures. Since the planning function of management is responsible for defining the work to be managed, planning can be said to provide a basis for performance management. It can then be considered the most important practice within an operating environment.

4. Why Manage an SME populated Supply Chain?

The last decade has witnessed emphasis on SCM in terms of how organizations are shifting towards more proactive decision-making strategies while exploiting innovative governance structures. Often the issues under scrutiny pertain to whether SMEs add value to overall organizational growth. The literatures in the subject area suggest that SMEs are encouraged to participate in building formalized systems that would enhance their compliance and performance in various business entities.

Thus, SCM is a set of synchronized decisions and activities utilized to efficiently integrate suppliers, manufacturers, transporters, retailers, and customers so that the right product or service is distributed at the right quantities, to the right locations and at the right time in order to minimize system-wide costs while satisfying customer service level requirements [10]. Chen and Paulraj define a supply chain as a system of organizations, people, technology, activities, information and resources involved in moving a product or service from supplier to customer. Hence, the creation of added value in a process depends on the entire members of a chain as opposed to a single member of the chain. Handfield and Nichols [11] noted the importance of value systems in their definition of (SCM) when they suggest that SCM is the integration and management of supply chain organisations and activities through cooperative organisational relationships, effective business processes and high levels of information

sharing to create high-performing value systems that provide member organisations with a sustainable competitive advantage.

Supply chain activities transform natural resources, raw materials and components into a finished product that is delivered to the end customer. Businesses rely on their supply base and customers to survive. Increasingly, business people are expected to know that their suppliers are as mindful of their environmental and social responsibilities as they are or should be. However, it appears that this is not always easy to do with local suppliers, while it is even harder with suppliers from other countries. Nevertheless, SCM can effectively support the management of supplier networks with respect to the identification of supplier selection criteria, supplier selection decisions and monitoring supplier performance [12]. Since the planning function of management is responsible for defining the work to be managed, performance planning can be said to provide the basis for the performance of other supplier management functions and can therefore be considered to be very important as an SCM function.

One of the primary goals of SCM is to coordinate the flow of raw materials, parts or components from various suppliers to manufacturers for the purpose of producing products that meet customers' value expectations [13]. In the context of a single client firm, SCM is concerned with the flow of goods and services through the organisation with the aim of making the firm more competitive [5]. Cited literatures in Enyinda, Dunu, Gebremikael [13] observe that strategic partnerships with the right suppliers must be integrated within supply chains in order to contain costs by eliminating waste, improving quality, improving flexibility to meet customer's value expectation and reducing lead time at different stages of the supply chain. Collaborative planning is essential and requires both clients and supplier to ensure sustainability and long-term relationships are enjoyed. It is vital for managers (in SMEs and clients firms) to understand

and utilize sound techniques to assist them with planning, implementation and monitoring activities. Because of the value propositions associated with SCM, it is fundamental that clients pay attention to the performance of firms that constitute their suppliers. As part of the strategic plan of the institution, resources required for the fulfilment of its obligations should be clearly analysed. This includes a detailed analysis of the goods, works and services required, such as how much can be accomplished, how quickly and with what materials, and equipment.

5. Performance Management Considerations

Performance Management is the process of defining clear objectives and targets for individuals and teams, and the regular review of actual achievement and eventual rewarding for target achievement [9]. Aberdeen Group [4] define supplier performance management as the process of measuring, analysing and managing supplier performance for the purposes of reducing costs, mitigating risk and driving continuous improvement. This definition suggests that the performance of SMEs that form a significant number of the supplier base of most SOEs in South Africa should be managed.

The literature [14] shows that there is a link between high performance management practices and the financial performance of firms. However, it appears SMEs are not able to take advantage of this opportunity. Wiesner, McDonald and Banham [14] noted that the overall outlook regarding the incidence of high performance practices in Australian SMEs looks bleak because of the perceived inability to direct efforts to organisational change initiatives due to limited human, material and financial resources that continue to pose major hurdles for SMEs. The nature and characteristics of SMEs thus necessitate the deployment of effective processes for strategic performance management development so that they can become competitive [15].

Consequently, it is envisaged that supply chain departments in South African SOEs should plan and

control purchases to ensure that purchased products and/or services meet performance requirements of quality, health & safety (H&S), and other considerations without sacrificing timely delivery at competitive prices and/or costs. This is vital as there appear to be clear evidence that the failure to accurately measure, evaluate and manage the performance of SMEs contributes to their failure rate mentioned by Brink and Cant [16]. This failure can increase SOEs' operating costs, damage its product and/or service quality and hinder its competitiveness in the marketplace at large. According to O'Callaghan [9], in order to ensure that the performance of SMEs are managed effectively, it is important for a performance management strategy to be simple, formalised, linked to key business objectives and available to resources that can render assistance.

6. The Proposed Primary Data Collection Strategy

Pure research is undertaken to develop knowledge, to contribute to the body of the theory that exists, while applied research seeks to address issue of applications in order to solve practical problems with contribution to knowledge for as secondary consideration [17]. To this end, the MSc dissertation intends to make a significant contribution to the field of SCM by providing insights and guidance for SMEs and SOEs in South Africa in terms of performance management.

Three main approaches that shall be explored in the field work include: interviewing participants; study of current reports and development of a questionnaire as means of data gathering. The unit of analysis for the research are the SMEs contracted to PetroSA. The primary data shall be obtained through responses from the SME participants. The objective is to obtain an appropriate set of data that will be executed using the descriptive format of research.

Descriptive research involves either identifying the characteristics of an observed phenomenon or exploring possible correlation among two or more

phenomena [18]. This is done through semi structured questionnaires and recorded interviews to ensure correct information is collected. The data collection will be expedited by means of interviews with managers from PetroSA, its suppliers, and customers and surveys conducted among contractors and subcontractors contracted to PetroSA.

All contracted parties (with PetroSA) that are involved in construction related activities shall be included in the field work so as to allow them to share their knowledge and experience while addressing questions pertaining to this subject. Interviewing is a critical investigative tool. Interviewing will be done to provide evidence and validate the act, concealment and conclusions, as well as to document intent, motive and fill out other investigative gaps.

The research shall endeavour to gather responses from each SME contracted to PetroSA. In order to ensure uniformity, the focus shall remain with contractors who share common challenges, exposure and conditions. Since a high rate of failure has been found as a common, if not the biggest challenges among SMEs, it is of great importance to focus on the matters identified as problems in the literature.

7. Discussion and Concluding Thoughts

Although there is a plethora of research in and around performance measurement and business failure concerning SMEs, this is not so in the developing countries. As a result, this research endeavour is envisaged to bridge knowledge gaps in this context as it has identified an area that has considerable room for growth and expansion. The review of related literature that has been conducted so far suggests that the study has the potential to make a significant impact upon existing knowledge and understanding of factors that induce failure within SMEs; explore the potential of performance management systems that are currently being implemented and measure how effective these are; and develop new insights into how these performance measurement criteria can be improved

upon. In other words, the importance of the study is based on the examination of an existing issue from a different perspective. For instance, supplier management as an issue has been investigated widely, although not always from the performance perspective. This perspective is what makes the work different. To this end, the research project intends to differentiate between performance and some of the other metrics so that the contribution of the work can stand out.

The case for the study is corroborated by Hudson, Smart and Bourne, who contend that performance measures in SMEs are developed: with limited reference to any existing measures in place; with no reference to strategy; in an ad hoc manner by managers / employees; without deleting obsolete measures; and with a lack of employee understanding of new measures. In other words, SME performance measures are always not strategic, unclear with the use of complex / obsolete data, historically focussed, and only measures flexibility and human resources (Hudson, Smart & Bourne, 2001). Nevertheless, the research methodological design and execution of this particular study requires further refinement before the actual field work can proceed. The literature review equally needs to take into account the contributions of extant academics in business theory. Thus, future research shall take into account these limitations so as to rigorously produce a significant contribution in the subject area.

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