

# Identification of Green Procurement Drivers and Their Interrelationship Using Fuzzy TISM and MICMAC Analysis

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## INTRODUCTION

Green procurement is sourcing products and services that cause minimal adverse environmental impacts. It incorporates human health, social and environmental concerns into the search for high quality products and services at competitive prices. Green procurement is generally considered a mammoth task by the procurement managers. Recently focus has been given by regulatory bodies to apply pressure on firms for implementing green programs. Environment protection bodies are regularly organizing seminars and conferences to educate and train managers in such greening initiatives. In some countries the government has developed green specifications for items and mandatory part of tender requirement for public procurement. However, the green procurement programs are still under nascent phase in most developing countries.

The present research is motivated based on the study of Azevedo et al., (2011) where they have pointed potential future research area in exploring the enablers and barriers influencing companies in taking green procurement decisions. Secondly, Appolloni et al., (2014) conducted a review on green procurement considering the time frame between 1996 and 2013 but does not highlight the inter-relationships between the drivers of green procurement practices and they have also kept it under one of future research directions. They have also mentioned the need for strong qualitative and quantitative research to support the progress of green procurement.

The objective of the current study is to identify the leading drivers that influence green procurement programs and determine the interactions among the identified drivers. This chapter is structured into four additional sections. The next section presents the background of the study which helps to identify the green procurement drivers. The third section introduces Fuzzy TISM. Finally, conclusions, limitations and directions of future research are presented.

## BACKGROUND

In this section an attempt has been taken to briefly explain the key drivers of green procurement.

### Government Policy and Regulations

Governments are among the largest consumers in an economy. The public sector on average spends 45%-65% of their budgets on procurement. Given this substantial purchasing power, governments have enormous leverage to stimulate and drive markets for sustainable production and consumption when they make a determined effort to purchase 'green' products and services. Adopting such an approach is a smart form of procuring goods and service – it not only improves the efficiency of public procurement but also uses the public market power to bring about significant environmental and socioeconomic benefits. Supply chain management operates within a regulatory framework set by National Government and

extended by provinces and local governments to specific policies, legislation and regulations. In South Africa for instance important legislation influencing this function includes the Public Finance Management Act (1999), Preferential Procurement Policy Framework Act (2000), Preferential Procurement Framework Regulations (2001) and National Treasury Regulations (2005). The Municipal Finance Management Act (MFMA) of 2003 governs the financial and supply chain management functions of Local Government. In developing green procurement policies, local government would need to ensure that these policies: are aligned with their existing Supply chain management regulatory frameworks; avoid a clash between the Preferential Procurement regulations and environmental principles or criteria in the policy; incorporate green procurement in all dimensions of the supply chain management cycle; and institutionalize green procurement within the existing structures set out by the regulatory framework. Government policy and regulations positively influences green procurement (Min & Galle 1997; Diabat & Govindan 2011; Hassini et al., 2012; Bag., 2014; Appolloni et al., 2014)

### **Total Quality Environmental Management**

Firms with successful TQEM programs will have more formal mechanisms for interacting with suppliers. Business units with successful TQEM programs exhibit a greater degree of competitive focus and strategic sourcing. In every step of the manufacturing process there will be quality check to avoid rejections and wastage and this will assist in saving natural resources. TQEM positively influences green procurement (Khidir et al., 2010; Diabat & Govindan 2011; Ageron et al., 2012; Dubey et al., 2013; Bag., 2014; Bag & Anand., 2014; Dubey et al., 2014).

### **Management Support**

Management support is important in success of any projects and specially for green procurement

programs where strategic decisions are mainly involved. Management support have positively influenced green procurement (Min & Galle 1997; Zhu et al., 2008; Arslan 2010; Bag., 2014).

### **Management Review**

Management review periodically is necessary to check the progress of green procurement programs and see that timelines are met. The review will capture the bottlenecks, critical paths and develop strategies to find out ways to complete the activities at economical cost within the timeline. As per expert opinion management review positively influence green procurement.

### **Continuous Education of Employees**

Organizations practicing green procurement must have the transformation and diversity manager to carry out the necessary trainings of employees. Training will assist employees in gaining knowledge and deeper understanding of green procurement and its importance in supply chain management. Moreover, the training budget must be utilized carefully in proper training and must be aligned with the company mission and vision so that organization ultimately benefits in the long run. As per expert opinion continuous education of employees positively influences green procurement.

### **Cross Functional Team Building**

In a manufacturing firm there are people from planning, procurement, production, quality assurance, logistics and other functions. Since green procurement involves close coordination with all related supply chain functions therefore it is imperative that organization form a green procurement committee comprising people from all functions, i.e. a cross-functional team to drive the green procurement project. This committee will be responsible for generating weekly progress reports, communicating to internal and external environment, maintain records of consumption

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