

# Exploring drivers and barriers to sustainability green business practices within small medium sized enterprises: primary findings

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## Keywords

SME, Sustainability, Drivers, Barriers, Green Business, Implementation

## Abstract

*Presently the conducted studies on how SMEs should integrate sustainability align with their core business principle is limited. Most of the discussion on this field is emphasized to address issues for larger organizations and very limited effort on small firms. The drivers and barriers of approaching sustainability practices in SMEs are different from those in large organizations since SMEs lack technical specialist, experience and money required to make such strategy. Since SMEs play a significant role in nation's economic growth, it is essential to study and find their drivers and barriers toward sustainability business practices constitutes main motivation of this paper. This is a primary finding that aims to understand the SME motivation and barriers that are facing in implementing green sustainable business practices to offer insight look to small firms to find key factors that influence adoption of sustainability business approach within their management practices.*

## 1.0 Introduction

In recent times, the firms have been more alert of their tasks to develop a sustainable product and services through green business practices (Freyman, 2011). Generally, large firms are more familiar with this approach compared to SMEs as they acquire more efficient management functionality and discipline and as well as decent financial constancy in compare to SMEs. It has been recorded that owner of small firms have limited knowledge toward green business due to limited conducted research in their business boundaries. Therefore, they are not aware of the impact such practices on business performance (Scraper et al., 2012). It is known that SME generate significant contribution to the national total economy growth and it can be perceived as the backbone of a nation's long term success with increase of green business essence are becoming the driving force to pushes the small firms in the manufacturing, industries or product and services around globe to merge sustainability concept with their core principles. According to the Australian and New Zealand government (2011), SMEs contributed around 60% of Australia's industrial value added in 2009–10. SMEs are playing an ever-increasing role in the national and regional economy. Also base on newest released state finding, SMEs in UK represent nearly 95% of services and industries sub sectors (UK Bureau of Statistics, 2014).

The OECD economies, around 90% of business are constituted by small firms that is responsible for over 53% of total GDP. By contrast, in developing nations more than 90% of all businesses other than agricultural segments are shaped by micro or small enterprises. These small firms contribute significant economic output to the GDP. For instance, in Morocco 93% of all industrial firms are being run by small enterprises which contributes for 38% of production and \$31 of investment and 36% of exports. This is very clear that impact of SMEs should not be undervalued (Salimzadeh, 2013). Marie-Franek (2012) in his report of research for innovative solution stated that SMEs are estimated to be responsible for 80 per cent of industry's destructive environmental impacts and more than 60 per cent of commercial waste. Clearly, conversations about sustainable business must include SMEs. SMEs can be defined by different characteristics including size, business structure, number of employees, age, net profit and ownership through innovative and technology (Katia, 2010). Most SMEs pursue one dimensional and traditional procedures which is a profit-oriented approach that ensure flexibility, instant feedback and short decision

making chains. However, the definition of SMEs vary from one nation to another, nonetheless they are considered as small private firms that are crucial in recruiting and profit contribution to GDP. More than half of these small firms implement simple procedure that enables well-rounded, instant response and brief and immediate decision making policy. In addition, SMEs deliver more comprehensible and faster feedback to clients' expectation compared to larger firms.

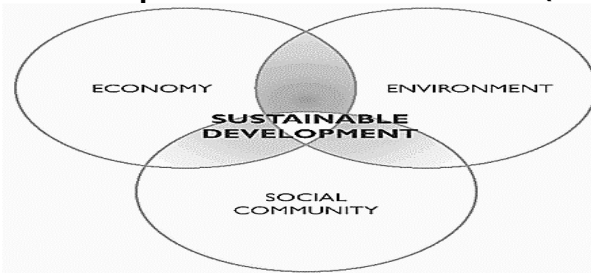
The concept of green business or also known as sustainability business has helped to shape a new strategy management approach that apply different aims , norm and knowledge along with novelty to develop more competent and promising plan (Cohen,2009). As whole, a business that practices such approach, would cause a method to consume ideas with low environmental destruction and a process which are largely creative with almost zero resources waste and adulteration. They are many examples of such practices through green manufacturing that acts as block to resource waste and pollution that involves dropping resources, energy uses and recycling products and services to merge a process cycle which introduce using available limited resource as effective as possible that will not compromise future's needs for many years to come. Other example such practices can include ecofriendly energy, environmental product and services and training employees to be more educated about such practice to enhance the knowledge and recognize the benefit of green practices and threats of overusing such valuable resources (Majid, 2009). The drivers and barriers of this approach in SME are different to those in large and flat organizations since the small business have limited number of skill obligatory to start such approach (Carter, 2010).The environmental performance of SME is mostly encouraged by aim and goal of owners that run the business. It has been observed from literature and journals that there is limited available sources of studies that mainly concentrated on acknowledging of drivers and barriers of applying sustainability business practices in SMEs, particularly in a specific chosen state since each state or nation's SMEs require different strategy commensurate to their needs and challenges. Therefore, the objective of this paper is to find and analyze the identified barriers and drivers that influence application of such practices in SMEs. For this paper, the DEMATEL is used for this paper's methodology to collect and analysis from both academy and non-academy experts and list the drivers and barriers.

## **2.0 Literature Review**

### **2.1 Definition of Sustainability**

Sustainability has defined differently base on the perspectives. While some have defined sustainability as conservative method to restore and preserve the nature resources that will be deficit in the future of living environment, other definitions are in relation to policy making. Burton (1987) gave one of the first definition of sustainability from implication and trade policy perception. He described sustainability as growth that is possible to continue without causing economic problems and development that is conceivable to proceed without creating economic issues and possible to sustain without causing environmental challenges. However, United Nations (1997) definition of sustainability seemed to be largely acceptable where the sustainability was explained as which "meets the needs of the present without compromising the ability of the future generations to meet their own goals". Even though, several authors have identified this definition to be challenging where Taylor (2008) believes that the aspect of sustainability in its wide applications. Adams (2005) in his critic of UN definition, contended that it is commonly hard to decide the future needs in upcoming generations that might be changed than current time. He continued that the developed nations have different standpoint on needs of future which is different from interpretation of those developing nations. Anyhow, the definition that was given by UN raised controversies as it yet explains the two essential concerns: the continuous issues of ecological poverty that outcomes from economic progress, and the essence for such growth to reduce poverty in society (Lele, 2001). Barton (2004) present the three unified areas in a model to define the concept "sustainable development". Such areas as society, economy and the environment.

**Figure 1:**  
**Sustainable Development Interaction main Sectors (Collet, 2008)**



**2.2 Definition of Small Medium Sized Enterprises (SME)**

The best description for the small medium sized enterprises remains that used by the Bolton Committee in 1971 report on small firm’s key characteristics. This stated that SME is an independent business, managed by its owner and having a small market share. The Bolton Report also adopted a number of different statistical definitions. The Bolton report also adopted of different statistical definition for instance yearly profit and figure of hired manpower. SMEs can be broken down to two separate segments: 1) Segments that is engages with manufacturing industries on physical and chemical products. 2) Segments on other goods and services. This contains ICT services as well as research development, logistics and private educations, agencies, installation and construction suppliers. To qualify as characteristic of SME’s based on its size, sales turnover are presented in Table 1:

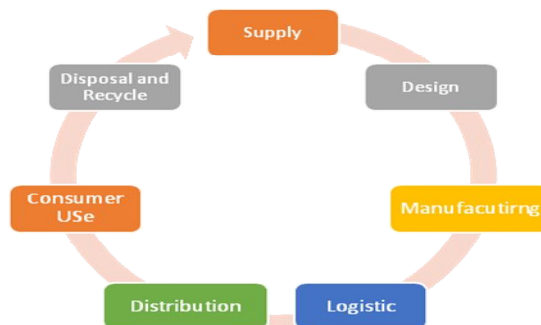
**Table 1**  
**Characteristics of SMEs (Tylor, 2012)**

<b>Small Medium Sized Enterprise’s Characteristics</b>			
Criterion	Micro	Small	Medium
Number of Employees	9	49	249
Annual Sales	-	7 Million Euros 5 million euros	40 Million Euros
Annual balance sheet total jointly by several, enterprise(s) not	-	25%	27 million euros 25%
	-		

**2.3 Sustainable Business: Green Practices**

Sustainable planning leads to green practices that are root to production efficiency, lower material cost and reduced environmental and occupational safety expense such lower regulatory compliance costs and potential liabilities. In addition, such practice can help to improve the corporate reputation and image by public (Goel, 2010).

**Figure 2:**  
**Sustainable Green Business process cycle (Kearny, 2013)**



As the process cycle that is shown in figure 2 can illustrate that course initiates with supply than supports with design, manufacturing, logistic, Distribution, Consumer use to product's end and disposal and Recycle back to supply.

### 3.0 Research Methodology

The emphasized on identified drivers and barriers in sustainability for SME is developed through a review of previously tested knowledge of the variables involved and publication in literature review SMEs like publications, books, and the Internet. The purpose of this approach is to demonstrate that the relationships propose are not based on personal instincts or guesses, rather formed from facts obtained from authors of previous research. In following this, the compiling drivers and barriers that effect the execution of sustainability green practices in SME. Then, the Fuzzy DEMATEL model is used to address the dependence relationships of factors with the aid of grey relational analysis and Decision-Making Trial and Evaluation Laboratory (DEMATEL). DEMATEL is applied to build interrelations among criteria and sub criteria in the integrated model (Tseng, 2009). By applying this approach, the interdependencies' strength among the criteria and sub criteria is confirmed and tested.

#### 3.1 Fuzzy DEMATEL

The Fuzzy DEMATEL Method is based on graph theory, enabling us to plan and solve issues visually where we may divide the relevant factors into cause and effects in order to better comprehend which one cause the most impact (Hamrawi, 2009). The important aspect of Fuzzy DEMATEL method used in multi-criteria decision making (MCDM) field is to build interrelations and connection in order to rank the criteria and higher the number indicates the more impact of the criteria. The four steps in Fuzzy DEMATEL model framework: 1) calculate average matrix, 2) calculate normalized initial direct influence matrix, 3) derive the total relation matrix and 4) set impact relation map.

The fuzzy DEMATEL method had been applied successfully in the many decision making problems. Many researchers have used this method in combination with other multi criteria decision analysis such as MCDM method. For instance, Jassbi et al. (2011) applied fuzzy method DEMATEL method for modeling the cause and effect relationship of strategy. The fuzzy DEMATEL method is proposed in following steps:

**Step 1, Normalization:**

$$Xi_{ij}^k = \frac{(I_{ij}^k - \min I_{ij}^k)}{\Delta \frac{\max}{\min}}$$

$$Xm_{ij}^k = \frac{(m_{ij}^k - \min I_{ij}^k)}{\Delta \frac{\max}{\min}}$$

$$Xr_{ij}^k = \frac{(r_{ij}^k - \min I_{ij}^k)}{\Delta \frac{\max}{\min}}$$

Where  $\Delta \frac{\max}{\min} = \max r_{ij}^k - \min I_{ij}^k$

**Step 2, Calculate Is and Rs normalized values:**

$$xIs_{ij}^k = \frac{xm_{ij}^k}{(1 + xm_{ij}^k - xi_{ij}^k)}$$

$$xrs_{ij}^k = \frac{xr_{ij}^k}{(1 + xr_{ij}^k - xm_{ij}^k)}$$

**Step 3, calculate the complete normalized value:**

$$X^k_{ij} = \frac{[xIs_{ij}^k (1 - xIs_{ij}^k) + xrs_{ij}^k xrs_{ij}^k]}{[1 - xIs_{ij}^k + xrs_{ij}^k]}$$

**Step 4**, calculate the overall normalized value:

$$Z_{ij}^k = \min I_{ij}^k + x_{ij}^k \Delta \frac{\max}{\min}$$

**Step 5**, Integrate the value:

$$Z_i^k = \frac{1}{p} (z_{ij}^1 + z_{ij}^2 + \dots + z_{ij}^p)$$

20 experts from both academy experts from institution of higher education have had awareness in related fields and as well as non-academy experts in in industries and government agency to list up the drivers and barriers according to their knowledge boundaries and experience. Since the study is still continuous, the result presented in this paper are merely primary findings since more experts and responds needed from more than one nation to address the global SMEs drivers and hinders of implementation sustainability business practices.

#### 4.0 Results

The findings to identify drivers and barriers for implementing sustainability business practices within Small-Medium sized Enterprises are presented in tables below. The mean value and rank of each factor is presented in the result.

Table 2  
Drivers Acknowledged for Green Business / Sustainability Practices for SMEs

<b>Regulation</b>	<b>5</b>
1. Financial mandatory support from the government such as soft loan and lower tax rate for business due to implementing green business ethics.	
2. social responsibility pushed by authorities for sustainability	
3. Government pass the legislation, requiring large companies to provide information to Smaller businesses how they integrate social responsibility into their business strategies	
<b>Knowledge and Training</b>	<b>7</b>
4. Availability of affordable comprehensive training and education courses for firms	
5. Government assign trainer for employees to enhance knowledge toward green business and sustainability in particular for their business	
<b>Organization Culture</b>	<b>6</b>
6. Owner commitment and aspiration toward Green Business	
7. Employees commitment and relation	
8. Following business strategy to align the sustainability	
9. Sustainability awareness within organization's management	
<b>Business Ecological Concerns</b>	<b>3</b>
10. Stakeholders potential to encourage change, particularly with regard to implementing technological innovation	
11. Benefit of Green Economy for new market opportunities	
12. Providing evidence of Successful Sustainable practices as case	<b>1</b>
<b>Social Influences</b>	
13. Improving the corporate image by having positive ethics toward society and environment	
14. Increasing sales through green business practices to earn and retain consumers trust	
15. Public awareness toward Sustainability initiatives	
<b>Financial Motivations</b>	<b>4</b>
16. Providing soft loans from government to the business	
17. Niche market is customers want to know their purchases is sustainable and are willing to pay more for product from a sustainable company	
<b>Competitiveness Advantage</b>	<b>2</b>
18. Securing and stable long term growth	
19. Business performance commitment	
20. Organization belief of innovation opportunities through green products and services	
21. Being the one or few have positive business attributes in market	

**Table 3**  
**Barriers Acknowledged for Green Business / Sustainability Practices for SMEs**

<b>Barriers</b>	<b>Rank</b>
<b>Business Structure and style</b>	<b>2</b>
1. Absence of authorization to fund GMP	
2. High legislative issues which interrupt execution plan	
3. Challenges in adapt positive sustainability manners into actions	
4. Restrictive company approaches towards items/handle stewardship for GMP	
5. Inadequate resources that influence the organization's capability to implement new practices	
6. Improper communication structures to support green/sustainable practices	
7. Skepticism about the profits of GMP	
8. Difficulties in allocating resources for such strategy	
9. Lack of technical expertise	
10. Absence of contribution from external stakeholders	<b>5</b>
<b>Environmental hindlers</b>	
11. Lack of Knowledge and Information	
12. Regulations and Legislation as many SME owners do not the relevant regulation toward their business	
13. lack of enthusiasm and motivation in their corporate structure to environmental improvements	
14. Absence of impact on GMP key adjustment ability against changes in SME	
15. Costly and slow paced growth in sustainability project	
16. Absence of awareness in regards to the effect of sustainability on business	
17. Inadequate industrial self-regulations	
18. Lack of effective green business measures	
19. Lack of experienced sustainability practices verifiers	
<b>Social Barriers</b>	<b>4</b>
20. lack of awareness	
21. characteristic of owner	
22. restrictions on time and resources and insufficient acknowledgement of the benefits	
23. Existing tools for social sustainability especially for CSR implementations are primarily tailored to large companies.	
24. huge gap between the familiarity concept of Social responsibility or sustainability with SMEs approach	
<b>Suppliers</b>	
25. Complications in attaining green technological data, finance and raw resources	<b>6</b>
26. Poor supplier obligation	
<b>Government and Legislation</b>	
27. Lack of Government support and enforcement	<b>1</b>
28. Limited available training courses/consultancy provided by the government	
29. Limited and tight available budget and financial incentives to support green sustainable projects	
<b>Financial obstacles</b>	<b>3</b>
30. Limited Access to Finance	
31. Adaptation cost for resource which need to invest time and resources for acquiring relevant information	
32. High initial capital cost to implement	
33. Meeting regulatory requirements	
34. Low economical gain through green business and services	

## 5.0 Discussion

This paper identified 21 drivers and 35 barriers that observed through literature and panel of experts that motivate and challenges SME to be sustainability-oriented in their core business practices. The drivers are classified in 7 categories where base on finding where "Social Influences" was the most important driver to improve the company's image and having long term relationship with consumers by earning and returning their trust and "Training and Knowledge" was the least important for SMEs to train their employees to be more adapted toward such practices within business. While, drivers are classified in 6 categories that shows "Government and Legislation" is the most challenging barrier for SMEs to implement such practices due to limited loans and budget along with lack of adequate training and consultancy by authorities. "Suppliers" is considered as the easiest barrier for SME to deal with. Moreover, it is evident in general SMEs commitment to the social influences is not only for firm's gaining approval from public, but also is driven by economic aspect by expanding their sales and competing in niche market to secure and sustain their consumers. It is expected that implementation of either sustainability practices or green economy in SMEs can be one of the factors that assure steady long term growth for SMEs as clients have become more ecologically concerns in recent years. SMEs are able to improve their performance and achieve profit and increase the competitiveness in market on global and local stage. It

may takes time and it can be costly, however the return on such approach is promising for SMEs in many years to come.

## 6.0 Conclusion

The studies and researches conducted on SME's and sustainability business practices have been narrow and limited for instance from 2008 till now only 14 legit articles have been written on SMEs and innovate approach for sustainability green business. (Simpson, 2011). Most of conducted studies on sustainability and green business done in effort to draw an inclusive image of concerns that is largely relatable to large firms and multinational enterprises where SMEs was remained ignored (Belloni, 2011). Bradford and Fraser (2008) argued that SMEs do not respond in same way toward sustainability in compared how large firms implement sustainability and Corporate Social Responsibility (CSR) strategy, and there is where

Researchers did not take into account. Moreover, McMullen (2013) specified that barriers and drivers for SMEs are comparable to those for larger firms and are reliable with much of the literature. For example, Lawrence (2009) organized a research project of top drivers and barriers of SMEs in value added wood sector. Lawrence states that research in this need to be continuous to grab better perspective in order to address issues only that is link with SMEs to develop models to enhance their encourage to follow such green business plan.

This paper tried to make a valuable input to the wider discussion, however much more remains to need to be done. Future research should give more critical insights the optimal roles and responsibilities of government toward the private sectors public sector actors and most notably proposing integrative model practical idea of in forms of training and support SMEs to develop skills and knowledge to the green issues and the challenges of sustainability initiatives in order to remain competitive with state and international markets as there is a high risk that SMEs will be wiped out if they do not upsurge their adaptability in the new, rapidly changing world of globalization. This systematic review provided evidence on its importance and the need to encourage scholars to undertake studies aiming at understanding and the means to ensure good management strategies to identify key research gaps relating to conceptual approaches, methodologies in this area.

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