

Opportunities and challenges related to SME implementation of EMSs

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Introduction

Small to medium enterprises (SME) – i.e. businesses with less than 250 employees¹ – play a significant role in economies around the world. They represent a vast majority of the total number of businesses worldwide (ABS 2002; CCM 1997 cited in Hillary 2003; UNIDO 2002) and account for between 50 and 60 percent of employment (UNIDO 2002).

SME environmental impact

While a typical SME is likely to have a relatively small impact on the environment (compared to a large multi-national company, for example), the size of the sector suggests that their aggregate impact is significant (Seidel et al. 2009). While this impact has not been fully quantified, Hillary (1995 cited in Hillary 2003) estimates that SMEs could contribute up to 70 percent of all industrial pollution. Research by Marshal (1998) and Strokes & Rutherford (2000) – both cited in Seidel (2009) – claims that SMEs are responsible for 60 percent of commercial waste and 60 percent of all carbon dioxide emissions in the United Kingdom.

Additionally, as Jenkins (2004) notes "that although the total socio-environmental impact of a large company will be greater than for an SME, the combined impact of SMEs measured in terms of impacts per unit of economic output will be greater."

This impact is likely to escalate as the prevalence of SMEs in global production patterns increases due to declining trade barriers, reduced transportation costs and improved communications technology, causing "functionally integrated activities [to be] increasingly split up across both organizational and geographical boundaries" (Jorgensen and Knudsen 2006).

Role within global supply chains

The historical tendency for SMEs to operate within local markets (Lefebvre, Lefebvre, & Talbot, 2001 cited in Seidel et al. 2009) has reduced their exposure to international pressures and trends. However, their integration within global value chains (Jorgensen and Knudsen 2006) changes this dynamic, exposing them indirectly to the impacts of growing public scrutiny of their larger customers by a variety of stakeholders, including non-governmental organisations (NGOs), the media and other public and community groups (Jorgensen and Knudsen 2006, Will 2008).

The increasing prevalence of SMEs in global supply chains also spotlights the sector's (in) ability to implement and enforce sustainability measures with their own down-stream suppliers. Jorgensen and Knudsen explain that:

"while SMEs are not rule makers in global value chains, they may nonetheless play an important role in relation to rule keeping. In other words, SMEs that operate as suppliers in global value chains may act as change agents on behalf of lead firms in sustainable supply chain management."

They go on to note that "the increased presence of small companies in global supply chains is likely to have a negative effect on the pervasiveness of sustainability requirements in the value chain." (Jorgensen and Knudsen 2006)

¹ The ABS defines an SME as a business with less than 200 employees, however European measures indicate a slightly larger size. As much of the research reviewed in this report uses the European measure, it is also used here.

Adoption of EMS within SMEs

The uptake of formal (that is, certified) EMSs by SMEs is quite low (EDG-EC 2004, McKeiver and Gadenne 2005), with many taking a “resistive” strategy to EMS implementation (McKeiver and Gadenne 2005).

There seems to be very little empirical data on informal EMS implementation, though McKeiver and Gadenne’s study (2005) suggests that a significant minority have implemented such measures. Informal EMS processes may thus be considered within the context of what Jenkins (2004) refers to “‘silent’ CSR” practices.

SME drivers to adoption of sustainability

Jenkins (2004) notes that much of the business case for SME CSR adoption is based on evidence drawn from the experience of larger companies. Hillary 2003 also highlights that:

“SMEs are also very sceptical of the benefits to be gained from making environmental improvements. In many cases, especially for the smaller organisations, low awareness and the absence of pressure from customers (the most important driver for environmental improvements and EMS adoption) and insufficient other drivers mean that few efforts are made to address environmental issues.”

Despite this, a number of drivers have specific resonance for SMEs. These can be broadly categorised into “opportunities” and “risk avoidance” benefits.

Opportunities include:

- Increased market share/new markets (Fleischer 2009; White and Stewart 2008)
- Increased profits/financial performance (Fleischer 2009; White and Stewart 2008)
- Cost reductions/efficiency (McKeiver and Gadenne 2005)
- Competitive advantage (Condon 2004; McKeiver and Gadenne 2005)
- Employee attraction (Fleischer 2009; Jenkins 2004; Roberts, Lawson and Nicholls 2006)
- Reputation building (Fleischer 2009; McKeiver and Gadenne 2005)

Risk avoidance benefits include:

- Legislative compliance (White and Stewart 2008)
- Supply-chain pressures – e.g. maintaining access to existing markets/customer retention (Roberts, Lawson and Nicholls 2006; Jorgensen and Knudsen 2006)
- Employee retention (Fleischer 2009; Jenkins 2004; Roberts, Lawson and Nicholls 2006; White and Stewart 2008)
- Reputation protection (Jenkins 2004; White and Stewart 2008)

Increasing profitability and the survival imperative

A recurring theme throughout the literature is SMEs’ emphasis on financial and operational risks (Condon 2004; Jenkins 2004; Roberts, Lawson and Nicholls 2006) due, at least in part, to the largest perceived risk being “the failure to survive” (Jenkins 2004). The result is a focus on day-to-day activities, short-term problem solving and “making ends meet.” (Epstein and Roy 2000 cited in Seidel et al. 2009)

As such, a demonstrated relationship financial performance and environmental/social considerations is very important for SME adoption of CSR initiatives (Biondi & Iraldo, 2002 cited in Seidel et al. 2009), including environmental improvements. Jenkins (2004) notes that there are:

“numerous characteristics of the SME sector that reduce the importance (or even likelihood) of good social performance translating into increased profits, and make it harder for SME managers to see the business case ... While small companies may receive certain business benefits from supporting the community, the proposition that they may gain financially requires more supporting evidence before it becomes widely accepted.”

Kane (2010) warns that evaluating sustainability activities on the basis of financial return on investment alone may miss potentially significant indirect benefits, making the comment that doing so is “like expecting your marketing department to demonstrate cost savings across the business.”

Cost saving through eco-efficiency

Achieving greater profitability through energy efficiency and waste reduction measures is another frequently cited benefit (Hillary 2003). Lee (2009) presents two case studies that demonstrate eco-efficiency providing significant returns to medium-enterprises.

The impact and appeal of efficiency measures are somewhat dependent on the industry and size of the business. For example, a retailer undertaking energy efficiency measures is likely to see only a small reduction in costs compared to a manufacturing firm with large energy expenditures for intensive plant and equipment. The smaller size of many SMEs may also limit the returns on such investments due to lower economies of scale.

Brand and reputation enhancement

While a lot has been made of the positive impacts of sustainability initiatives on brand and reputation management for large and small businesses alike, the literature suggests this is not a significant driver for SMEs.

While indications are that SME owner-managers appear to be aware of “green” market trends (McKeiver and Gadenne 2005), SMEs may not be able to take full advantage of positive marketing strategies to boost business performance as a result of CRM activity (Jenkins 2004).

Jenkins (2004) and Seidel (2009) also note emphasis of public scrutiny has been on large companies, in part due to the perception that they are the major contributors to environmental degradation (Tilley 1999 cited in Seidel et al. 2009). This, along with an emphasis within SMEs on business-to-business sales (Jenkins 2004; Jorgensen and Knudsen 2006), means that many SMEs may not be exposed to brand-related pressures. Jenkins (2004) also notes that many SMEs do not have a strong brand presence, further de-emphasising the importance of this aspect.

Furthermore, many SMEs may shy away from emphasising sustainability messages in their marketing efforts, fearing that implementing CRM and sustainability activities poorly or in the wrong way may expose them to increased problems (Roberts, Lawson and Nicholls 2006; Makower – various articles). Hillary (2003) also notes this as a specific barrier to formal EMS adoption, where identification of non-compliance acts as both a benefit (e.g. providing visibility of problems to fix) and a disbenefit (e.g. reputational risk).

New market creation/Innovation

Bowen (2002 cited in McKeiver and Gadenne 2005) “asserts that smaller firms may be more flexible, and thus able to exploit environmental niche opportunities.” Additionally

smaller firms “founded and structured using a lens of sustainability, can focus on new innovations without the distractions of having to “fix” existing operations.” (Will 2008)

While this may be true, the literature suggests that SMEs have limited strategic focus which reduces their ability to take advantage of such opportunities (Condon 2004; Jenkins 2004; Roberts, Lawson and Nicholls 2006).

Leadership

Given the size and nature of SMEs, their approach towards sustainability is often heavily influenced by the characteristics of the owner-manager (Jenkins 2004; Mandl & Dorr, 2007; Vives, 2005 cited in Seidel et al. 2009; McKeiver and Gadenne 2005; Underwood 2010, interview; Will 2008).

Considering the environmental attitudes of SMEs, McKeiver and Gadenne (2005) report that Petts et al. (1998) “found striking similarities between the environmental attitudes of the public and the attitudes of SME employees (both management and non-management), with 84 percent of SME owner-managers reporting concern about the environment.”

Comparing this with the relatively low uptake of environmental management within SMEs suggests that, while leadership and internal “champions” are an important success criteria for environmental initiatives (Condon 2004; Hillary 2003; McKeiver and Gadenne 2005), other factors present greater influence.

Legislation

Legislation relating to environmental performance appears as a critical driver to both sustainability initiatives and EMS adoption within SMEs (Hillary 2003; Roberts, Lawson and Nicholls 2006; Seidel et al. 2009).

Referencing the work of Masurel (2007) and Williamson & Lynch-Wood (2001), Seidel et al (2009) suggest that “SMEs often state that they will not invest in such improvements unless they are forced to do so by law.”

Even so, Roberts, Lawson and Nicholls (2006) identified “a significant number of SMEs who are not yet complying with legislation and where moving from non-compliance to compliance would yield significant CR [Corporate Responsibility] benefits,” suggesting that even when such regulation is in place, awareness may still be an issue.

Employee recruitment and retention

Another oft-cited benefit of sustainability initiatives is the recruitment and retention of employees. There are a number of studies and surveys that indicate that job applicants and employees are attracted to businesses with a strong social and environmental performance (Jenkins 2004; McKeiver and Gadenne 2005; Fleischer 2009).

McKeiver and Gadenne (2005) identify employee influence as one of two “keys to SMEs taking action on the environment” (the other being customer influence), a European Commission report (cited in Jenkins 2004) found that “whilst improving employees' job satisfaction is perceived as both a motivational factor and a potential business benefit, it is not high on either list.”

Supply chain demands

If Jorgensen and Knudsen's (2006) findings relating to Danish SMEs translate into other jurisdictions, a large proportion of SMEs count other businesses as their primary customer

segment. Further, Jenkins identifies “one, large, customer company, to which the SME is financially tied” as the dominant stakeholder for SMEs, where SMEs’ “position in the supply chain often exposes them to ‘top down’ pressures from customers.” (Jenkins 2004)

Hillary (2003) asserts that while customer demand is one of the key drivers to the adoption of EMSs, few customers are actually making such demands. Even so, Jorgensen and Knudsen (2006) suggest that SMEs are “increasingly expected to combine global business strategies with strategies to govern social and environmental standards across global production networks.”

Lee’s study (2009) of two Korean manufacturers reflects this:

“Final manufacturers often exercise buying power to pressure their suppliers to achieve superior environmental performance. As part of the [European] RoHS-compliance program, many larger companies are asking their suppliers to verify parts and components compliance to secure compliance of the final products (Cusack and Perrett, 2006). Many of the suppliers over the supply chain are SMEs.”

SMEs that are unable or unwilling to implement EMSs, or that are unable to enforce environmental requirements down-stream in their own supply chains (Seidel et al. 2009), “may in time face rising barriers to entry into global value chains.” (Jorgensen and Knudsen 2006) This is also noted by Jenkins (2004) and Roberts, Lawson and Nicholls (2006).

Share price, financiers and SRI

As SMEs are mostly privately held Jenkins (2004) suggests that share price and the Socially Responsible Investment (SRI) community are influencers primarily for large companies. The literature does not indicate that lenders applying social or environmental criteria to loans is a significant occurrence, let alone driver for adoption of sustainability programmes.

Key challenges for adoption of sustainability

Given the low uptake of EMS systems and sustainability measures within SMEs, it is clear that the benefits outlined above are insufficient for many SMEs to overcome the barriers and challenges in implementing sustainable practices.

Common barriers identified in the literature include:

- Lack of internal expertise (Condon 2004; Hillary 2003; Roberts, Lawson and Nicholls 2006; Underwood 2010)
- Lack of relevant (sector- and/or size-specific) informational resources and supporting services (Condon 2004; Hillary 2003; McKeiver and Gadenne 2005; Roberts, Lawson and Nicholls 2006)
- Time pressures and short planning horizons (Condon 2004; Jenkins 2004; Hillary 2003; McKeiver and Gadenne 2005; Roberts, Lawson and Nicholls 2006; Seidel et al. 2009)
- Ad-hoc or minimal systems (Jenkins 2004; Lee 2009; Underwood 2010), especially in relation to strategic decision making (Condon 2004; Lee 2009; Seidel et al. 2009; Will 2008)
- Low awareness of environmental impacts and risks (Condon 2004; Kane 2010; McKeiver and Gadenne 2005; Seidel et al. 2009)
- Perception of higher costs and financial risk (Hillary 2003; Jenkins 2004) or unclear cost-benefit ratio (Roberts, Lawson and Nicholls 2006)

- Financing difficulties (Condon 2004; Lee 2009; McKeiver and Gadenne 2005; Seidel et al. 2009)
- Low interest (Hillary 2003) or limited enforcement (Jorgensen and Knudsen 2006) from customers, especially in relation to micro-businesses (Hillary 2003)
- Down-stream supply-chain barriers (Jenkins 2004; Roberts, Lawson and Nicholls 2006)

A detailed review of these barriers is outside the scope of this article, however a few key aspects warrant further discussion.

Role flexibility

Many of the barriers identified from SMEs could be considered to stem from an underlying cultural aspect of the SME sector: role flexibility (Jenkins 2004; Seidel et al. 2009; Underwood 2010, interview).

This trait may be the source a number of flow-on effects, including some of the barriers identified above:

- Higher hours worked, increasing time pressure (McKeiver and Gadenne 2005)
- Wide range of responsibilities, making specialisation and training in sustainability factors difficult (McKeiver and Gadenne 2005)
- EMS and sustainability processes being interrupted (Hillary 2003)
- The perception of sustainability as a “bolt-on” or additional burden/cost to employees (Condon 2004; Lee 2009)
- Ad-hoc systems, processes and communications flows

Illustrating this last point, Seidel et al. (2009) notes that in SMEs “communication and information flows are usually less formalized. This means that staff members sometimes fail to follow up on details regarding strategic initiatives, allowing such efforts to “fall through the cracks.”” (Seidel et al. 2009)

Lack of awareness of impacts & risks

The gap between SMEs’ awareness/concern and action on sustainability activities may be partially explained by low awareness of the environmental impacts and risks associated with business operations.

Seidel et al (2009) highlights a 2002 NetRegs study carried out in the U.K. that found “86 percent of SMEs questioned thought that their activities did not have a harmful impact on the environment,” and that this is a rising trend: “... in 2005, only 7 percent of the surveyed U.K. businesses thought they performed activities that could cause harm to the environment.”

McKeiver and Gadenne (2005) suggest that this is particularly the case with many SMEs in the service industry. Condon (2004) suggests this lack of awareness exists even in businesses where regulations apply to their operations.

Ad-hoc systems and informal processes

While a lack of formal systems is noted by a number of authors as a barrier to sustainable practice (Jenkins 2004; Lee 2009; Seidel et al. 2009; Will 2008), it is also highlighted as being a key strength for SMEs, both in terms of general competitiveness (Condon 2004; Lee 2009; Underwood 2010) and in relation to the implementation of sustainability/CSR initiatives (Jenkins 2004). Lee (2009) suggests that “the adoption of green management actions and practices may result in loss of SMEs’ flexibility.”

Drivers specific to EMS adoption

EMSs are broadly categorised as “informal” and “formal”, the primary difference being that formal EMSs are certified (ISO 2003 cited in McKeiver and Gadenne 2005). The cost of certification has been highlighted by Hillary (2003) as a “major source of irritation for SMEs”. Such costs are incurred for both the certification process and for consultants advising SMEs in achieving certification (Hillary 2003).

It is clear that the perceived benefits of adoption of formal EMSs need to outweigh the perceived costs to spur the adoption of EMSs. Considering the drivers of EMSs specifically, both Hillary (2003) and McKeiver and Gadenne (2005) provide tables outlining a variety of benefits from EMS implementation within SMEs. McKeiver and Gadenne (2005) also identify a relationship between owner-manager attributes (age, awareness, education etc.) and the implementation of both formal and informal EMSs.

From these references, the key benefits could be summarised as:

- Compliance with regulations
- Business generation and retention
- Cost reduction (esp. in relation to waste)
- Process improvements
- Improved working environment, incl. employee engagement

These can be classified as methods of “enforcement” or “enticement” (analogous to the colloquial “carrot and stick” respectively):

Enforcement	Enticement
Compliance with regulations	Business generation and retention – new markets/marketing etc.
Business generation and retention – meeting customer environmental criteria	Cost reduction
	Process improvement
	Improved working environment

The findings of Seidel et al. (2009) and Hillary (2003) suggest that “enforcement” is more influential with SMEs. Hillary (2003) finds that:

“the regulator and local authorities exert greater influence on the general environmental performance of SMEs, in particular medium-sized enterprises, than customers.” (Hillary 2003)

Seidel (2009) confirms that:

“environmental legislation serves as one of the most important factors motivating SMEs to invest in environmental improvements (Bansal & Roth, 2000; Masurel, 2007). SMEs often state that they will not invest in such improvements unless they are forced to do so by law (Masurel, 2007; Williamson & Lynch-Wood, 2001).”

It is not clear from the studies reviewed for this article how much “Business generation and retention” is driven by enforcement versus enticement. However, the low rate of enforcement noted by Jorgensen and Knudsen (2006), an effect also mentioned

anecdotally by Underwood (2010, interview), suggest that this aspect is skewed towards enticement.

“Process improvement” and “Improved working environment” may be harder to quantify in terms of cost-benefit and consequently may be considered less influential in SME decision making.

Conclusion

There is a growing body of studies indicating that SMEs can realise a number of benefits from implementation of EMSs and sustainability practice.

This literature suggests that customer demand and legislation/regulation are the most significant influencers for SMEs to undertake such initiatives, especially in overcoming the cost and institutional barriers related to the adoption of formal (i.e. certified) EMSs.

Interestingly, the studies do not seem to suggest that the presence of a formal EMS is a critical factor for customers or for achieving competitive advantage. In other words, in many cases an informal EMS may be sufficient to capitalise on the identified benefits – however further research would be required to confirm this hypothesis.

Future consideration of the following factors is also suggested:

- Benefits should be framed in terms of the positive impact on financial performance indicators (Condon 2004; Jenkins 2004; Roberts, Lawson and Nicholls 2006)
- Provision of information and supporting services targeted to SMEs both in terms of organisational size, sector and use of language (Jenkins 2004)
- Delivery of such information and services through networks, peer support/mentoring and existing business organisations such as chambers of commerce etc. (Condon 2004; Will 2008)
- Consideration of “light-weight” EMS processes, more in line with the ad-hoc management style prevalent in SMEs (Jenkins 2004; Seidel et al. 2009; Will 2008; Underwood 2010, interview)
- Consideration of EMSs as a means of developing staff expertise and institutionalising knowledge (Underwood 2010, interview)

Each of these may serve as an topic of interest for future research.

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