
TOWARDS IDENTIFYING THE MULTILEVEL DETERMINANTS OF SME SUSTAINABILITY PROFILES

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Abstract

A growing interest is noticed among practitioners, as well as researchers, regarding sustainable development (SD) within the small or medium-sized enterprise (SME) context. In order to better understand the latter's sustainable development commitment, a typology generated by crossing two axes is used: The Socio-Environmental Practices and Entrepreneurial Orientation. A survey was conducted among 330 Quebec (Canada) SMEs. The purpose is to distinguish the four (4) clusters of SMEs: Strategic, Reactive, Activist and Traditionalist. Thus, a crossed-analysis of the contextual, organizational and individual determinants identified in existing literature confirms the roles played by the industrial sector, internationalization, sales figure, sales growth and especially, the importance of belonging to a network that supports SD.

Keywords: Entrepreneurial orientation, Strategic Profiles, Small and Medium-Sized Enterprises, Socio-Environmental Practices, Sustainable Development.

1. Introduction

Studies show that small or medium-sized enterprises (SMEs) do not consistently engage in sustainable development (SD) or in corporate social responsibility (CSR). Their motivations to integrate SD or CSR into their operations are numerous (Parker, Redmond & Simpson, 2009; Johnson & Schaltegger, 2015). Since the early 2000s, researchers have presented typologies that distinguish four SME profiles (Spence & Rutherford, 2001; Parker, Redmond & Simpson, 2009; Battisti & Perry, 2011). Amongst them, only Parker et al. (2009) have proposed the theory of linking those groups to certain factors. Although those studies seem promising, many gaps still need to be resolved.

First, the economic dimension used to generate the profiles related to performance is not well adapted for SMEs. It is indeed widely recognized that profit is not a sustainable premise in this context (Harms, Wagner & Glauner, 2010). Therefore, a strategy specific to SMEs, called entrepreneurial orientation (EO), is used. It can lead to different approaches to performance. Second, as revealed by Aguinis and Glavas (2012), limiting the study to institutional determinants alone, as Parker et al. (2009) have done, does not help resolve the knowledge gap regarding CSR. Aguinis and Glavas (2012) have noticed a predominance of articles considering

institutional and organizational determinants (90%) and a shortage of articles considering individual determinants or that combine multiple levels of analysis (only 4%). With regards to SMEs, where leadership is especially crucial, this is an important omission. It is noteworthy that no empirical studies, with samples of significant size, have highlighted the multilevel determinants allowing to differentiated SME profiles from SD.

In order to fill in the gaps, SMEs, with regards to SD, are classified as follows: activist, reactive, strategic, and traditionalist. According to this classification, certain influential multilevel factors are identified: the contextual, the organizational and the individual. A study conducted among 330 respondents enabled us to validate if SME profiles have distinct characteristics regarding SD. This paper is organized as follows: first section looks at past typologies, highlighting their weaknesses and indicating those of the present study. The second section introduces potential determinants according to the three levels of analysis retained. Third section describes the two constructs used to support the typology and elaborates on one of them and verifies if any determinants allow a distinction between the profiles generated. Finally, the last section presents the findings and concludes with a discussion regarding those observations.

2. Literature Review and Theoretical Framework

SME typologies related to CSR have been developed since the early 2000s (Spence & Rutherford, 2001; Parker, Redmond & Simpson, 2009; Bos-Brouwers, 2010; Battisti & Perry, 2011). Researchers responsible for those typologies created the latter profiles by locating them on a matrix containing two axes: 1) a social and environmental axis; 2) a more traditional performance axis. (Spence & Rutherford, 2001). At the extremities of these continuums are two types of SMEs: proactive (high on both axes) and reactive (low on both axes).

This conceptualization has certain limitations, since using the performance axis generates challenges. First, performance is a polysemous concept that can refer to multiple dimensions, especially among SME leaders (Raymond et al., 2013). Since the objectives of SD can be observed on one of the profile axes, and influence the performance axis as well, validation using this measure is difficult. Furthermore, performance may be influenced by other dimensions, which the business does not necessarily exert control. Understanding the mechanisms that can influence SME's performance is definitely a focus point for public authorities, researchers and SME leaders. If it is to illustrate what stimulates SME performance, especially when related to SD activities, it would be wiser to consider those strategic choices as factors that could constitute a typology axis for identifying SME profiles. For this paper, the following typology is proposed. (see Figure 1).

		Socio-environmental practices	
		<i>Low</i>	<i>High</i>
Entrepreneurial Orientation	<i>High</i>	Traditional	Strategic
	<i>Low</i>	Reactive	Activist

Figure 1: SME profile regarding sustainability

On the vertical axis, entrepreneurial orientation refers to organizational behaviour regarding strategies and decision-making based on three dimensions: proactive, risk-taking and innovation (Covin & Slevin, 1989). Environmental practices, human resource management practices that align with SD and those related to relationships between SMEs and its community are on the horizontal axis. The four SME profiles observed at the junction of the two axes are as follows:

- Strategic: the competitive edge to gain a greater positioning is the ultimate goal of strategic SMEs. Those businesses use SD (products, processes) to differentiate themselves from competition;
- Traditionalist: "the one and only social responsibility of business is to increase its profits". A famous quote from Milton Friedman (1970) that encapsulates the priorities of traditionalist SMEs and advocates that SD is an unnecessary cost;
- Reactive: here, SD is a legal and institutional obstacle that cannot be ignored, where SD is often limited to a minimum;
- Activist: SD is first and foremost their main mission. SD is not regarded as an expense, but as a necessity.

3. Multilevel Effects

Fassin et al. (2015), Aguinis and Glavas (2012) as well as Singh, Jain and Sharma (2014) note that multilevel analyses are not numerous enough regarding SD. Therefore, this study adheres to Harms et al. (2010) theory, which considers simultaneously the impacts of personal, organizational and contextual factors on SD activities. Thus, similar to them, this study differentiates three levels of analysis known to influence sustainable practices as well as entrepreneurial orientation that can affect the four profiles of SMEs. Table 1 presents the variables that define the three dimensions that influence the profiles of SMEs. Brief descriptions and references to the authors are also indicated.

Table 1: Multilevel factors

Contextual factors		
Location (urban or rural area)	Some areas, because of their culture, industrial structure and leaders may encourage SMEs to adopt SD. These variations can be observed from one area to another within the same province.	(Vives, 2006; Tang & Tang, 2012)
Tangibility of	The more an activity contaminates, the more it is	(Perez-Batres et al.,

activities	considered tangible. Sectors with highly tangible activities are under more pressure, compared to those that are less tangible. The former is more likely to implement SD measures and are more transparent in their communications than the latter.	2012; Uhlaner et al., 2012)
End-user proximity	End-user proximity allows greater public visibility and stimulates SD commitment.	(Brammer, Hoejmose & Millington, 2011; Koos, 2012)
Belonging to a network	Belonging to a network provides necessary resources and is a source of motivation and support that helps SMEs to commit to SD.	(Jämsä et al., 2011; Del Baldo, 2012)
Organisational factors		
Size	There is positive correlation between size and adopting proactive attitudes with regards to SD. Larger SMEs have a better perception regarding the positive outcomes generated by SD compared to smaller SMEs.	(Brammer, Hoejmose & Millington, 2011; Koos, 2012; Torugsa, O'Donohue & Hecker, 2012)
Ownership structure	Family-run SMEs are more inclined to adopt environmental management for local interrelations and to preserve family reputation.	(Harms, Wagner & Glauner, 2010; Uhlaner et al., 2012)
Economic performance and slack resources	A lack of financial resources impedes SMEs commitment to SD. Having slack resources to finance SD would be a prior condition to their commitment.	(Gadenne, Kennedy & McKeiver, 2009; Brammer, Hoejmose & Millington, 2011)
Age	Younger businesses, compared to older businesses should be more receptive to SD since it is an eminently contemporary issue.	(Torugsa, O'Donohue & Hecker, 2012)
Internationalisation level	SMEs that are internationally active could enhance the level of SD commitment since they are exposed to different cultures, diverse regulations, specific working conditions, and variability in human rights.	(Gjølberg, 2009; Ketola, Blombäck & Wigren, 2009)
Personal factors		
Gender	Women would be more receptive to SD issues compared to men, and they would value environmental and societal responsibilities to a greater extend.	(Schaper, 2002; Peterson & Minjoon, 2009)
Age	Younger entrepreneurs would be more aware of the importance of SD, because as it is known, it has been of public and media interest for only 20 years. Ethically, SD issues, such as environment, would better correspond to those values and interests. Nevertheless, older entrepreneurs would also be sensitive to SD issues. They genuinely want to pass on to future generations a healthier planet.	(Aguinis & Glavas, 2012; Gadenne, Kennedy & McKeiver, 2009; Kuckertz & Wagner, 2009)
Level of Education	A higher level of education would be related to a higher SD commitment.	(Schaper, 2002; Vives, 2006;

		Gadenne, Kennedy & McKeiver, 2009; Peterson & Minjoon, 2009)
Education (specialized)	Students from disciplines other than those related to management give greater importance to collective issues in comparison to business administration students.	(Kuckertz & Wagner, 2009)
Experience	Experienced leaders would be better qualified to acknowledge the attainable savings thanks to potential profitable environmental innovations.	(Schaper, 2002; Vives, 2006; Gadenne, Kennedy & McKeiver, 2009)

4. Methodology

The four types of SMEs that are of interest to us were created by combining the two following constructs: entrepreneurial orientation (EO) and sustainable development commitment (SDC). To measure EO, a questionnaire developed by Covin and Slevin (1989) is used. It is the most popular with the most reliable internal consistency. This construct consists of three related dimensions – innovativeness, risk-taking and proactive – that enables to better capture the idea of entrepreneurial orientation. Each dimension is measured using 3-items. In order to measure the level of entrepreneurial orientation, the construct is considered as a whole (9-items) rather than in parts. To measure SDC, a construct following the instructions suggested by Turker (2009) is developed. This gave an 18-item construct, including a 9-item environmental section and a 9-item section for social issues (appendix 1 illustrates the final questionnaire). With regards to social issues, Fraj-Andrés, Martínez-Salinas and Matute-Vallejo (2009) and Bos-Brouwers' (2010) idea is retained, which divides the social issues into two dimensions: those related to human resource management (internal – 5-items) and those related to relationships within the community (external – 4 questions).

Contextual, organizational and individual factors were measured using a multiple-choice questionnaire, which often offers binary options (i.e. urban – rural) or a 5-level scale (i.e. percentage of capital owned by principle owner and his/her family: 0%; 1-49%; 50%; 51-99%). Table 2 illustrates the details related to those measures.

Table 2: Operations of the independent variables

Contextual factors	
Location (urban area)	Where is your firm located? (Urban or rural)
Tangibility of activities	In what sector does your firm operate? (Choose the activity from which your company generates most of its sales revenues) Primary sectors and production of goods; Commerce and Services
End-user proximity	What types of customers account for at least 25% of your revenues each? Individuals, Businesses, Firms to which you are a contractor, The public sector
Belonging to a network	Is your firm part of a network (association or group) that is involved with environmental, social or societal questions? Yes, No
Organisational factors	
Size	Approximately, what were your total revenues over the last year? 1 to

	100 000 \$; 100 001 \$ to 1 000 000 \$; 1 000 001 \$ to 10 000 000 \$; 10 000 001 \$ to 50 000 000 \$; 50 000 001 \$ and more
Ownership structure	What percentage of the firm's capital is owned by the firm's owner(s) family member(s): 0 %, 1-49 %, 50 %, 51-99 %, 100 %
Economic performance and slack resources	Over the last 3 years, compared to the following criteria, the firms' results have been: 1 - Much lower than your objectives, 3 - in line with your objectives, 5 - Much higher than your objectives for 1. Revenue (sales) 2. Profitability (%)
Age	In what year was your firm created?
Internationalisation level	On average over the last three years, what percentage of your revenues was obtained from export outside of Canada? 0%, 1-24 %, 25-49 %, 50 %, 51-74 %, 75-99 %, 100 %
Personal factors	
Gender	What is your gender? Male, Female
Age	How old are you? under 25 years, 25 to 34, 35 to 44, 45 to 54, 55 to 64, 65 years and up
Level of Education	What is your highest level of education reached? high school, professional training, college or CÉGEP, undergraduate degree (bachelor), post-graduate degree (master), PhD
Education (specialized)	In which field was this training taken/completed? Technical (professional training); Arts and literature; Management, economics; Engineering; Sciences and Health Sciences; Law, Social Sciences
Experience	How many years of experience do you have as a manager or an executive of a firm? less than 5 years, 5 to 10 years, more than 10 years

The 12-page survey used for the purpose of this study (which takes approximately 35 minutes to complete) was sent to about 20 000 SMEs. Scott's directories provided all the SMEs' addresses with no distinction in location, field of activity, and size of workforce (between 0 and 500 employees), throughout Quebec. The survey was completed entirely, or in part, by almost 1000 SME leaders (5%). In order to obtain a certain degree of uniformity, the study was conducted using private profit-making SMEs. Non-profit organizations (NPO), subsidiaries of large corporations, and self-employed workers were excluded. Among them, 337 participants completed the questionnaire. Cronbach alphas were used to verify the constructs internal consistency. The overall results are deemed highly satisfactory ($\alpha = .894$ for SDC; $\alpha = .907$ for EO).

5. Results and Implications

The crossed scores of EO and SDC were obtained using a mean as tipping point. This allowed the following matrix table (Figure 2).

		Sustainable Development Commitment (SDC)	
		<i>Low</i>	<i>High</i>
Entrepreneuria l Orientation (EO)	<i>Hig h</i>	Traditional 71 (21.5%)	Strategic 106 (32%)
	<i>Low</i>	Reactive 101(30.5%)	Activist 53 (16%)

Figure 2: Quebec's SME Profiles in Terms of Sustainability

Even though Figure 2 illustrates a non-orthogonal distribution, the number of respondents in each quadrant is considered more than sufficient, suggesting that there are more than two groups. In addition, the fact that less traditionalist SMEs exist in comparison to the reactive or strategic ones, confirms the existing literature regarding SMEs (Raymond et al., 2013). It is increasingly recognized that the majority of SMEs, and their leaders, do not markedly prioritize innovation and risk-taking as the ultimate goal to reach economic performance. To validate the profiles of SMEs found initially, a comparison is done to see if any differences exist between those profiles and the contextual, organizational and individual factors previously mentioned (Table 3 and Table 4).

Table 3: Impact of multilevel factors on SME profiles (Chitest²)

	Proactive	Activist	Reactive	Traditional	Total	Chi ² P (chi2)	Cramer V
Contextual Factors							
Urban area	60 57.1%	30 55.6%	73 73.0%	45 65.2%	208 63.4%	$p = 0.064$	
Rural area	45 42.9%	24 44.4%	27 27%	24 34.*%	120 36.4%		
Primary Industry + Goods	46 43.4%	19 35.8%	37 36.6%	41 58.6%	143 43.3%	$\chi^2 = 9.68$ $p = 0.022^*$.098
Trade Industry + Services	60 56.6%	34 64.2%	64 63.4%	29 41.4%	187 56.7%		
End Users	25	14	26	14	79	$p = 0.731$	

	23.8%	28.6%	26.3%	20.3%	24.5%		
Non-end Users	80 76.2%	35 71.4%	73 73.7%	55 79.7%	243 75.5%		
Part of a SD network	51 48.6%	18 34.6%	16 16.2%	10 14.9%	95 29.4%	$\chi^2 = 34.35$ $p \leq 0.00^{***}$.188
Not part of SD Network	54 51.4%	34 65.4%	83 83.8%	57 85.1%	228 70.6%		
Organizational Factors							
Family business ($\geq 50\%$ and more)	77 75.5%	31 62.0%	71 73.2%	49 74.2%	228 72.4%	$p = 0.343$	
Non-family business	25 24.5%	19 38.0%	26 26.8%	17 25.8%	87 27.6%		
Exporter	49 51.0%	7 15.6%	29 30.5%	33 55.0%	118 39.9%	$\chi^2 = 25.29$ $p \leq 0.00^{***}$.169
Non-exporter	47 49.0%	38 84.4%	66 69.5%	27 45.0%	178 60.1%		
Sales (over \$1 million) ¹	79 78.2%	24 49.0%	52 52.5%	50 72.5%	205 64.5%	$\chi^2 = 21.26$ $p \leq 0.00^{***}$.15
Sales (under \$1 million)	22 21.8%	25 51.0%	47 47.5%	19 27.5%	113 35.5%		
Individual Factors							
Male	77 72.6%	42 79.2%	76 76.0%	61 87.1%	256 77.8%	$p = 0.143$	
Female	29 27.4%	11 20.8%	24 24.0%	9 12.9%	73 22.2%		
Education level (college)	40 38.5%	22 44.9%	39 41.5%	34 50.0%	135 42.9%	$p = 0.495$	
Education level (university)	64 61.5%	27 55.1%	55 58.5%	34 50.0%	180 57.1%		
Specialisation in management and engineering	53 52.5%	21 45.7%	43 49.4%	28 44%	145 48.8%	$p = 0.748$	
Other specialisation	48 47.5%	25 54.3%	44 50.6%	35 55.6%	152 51.2%		
Experience in management (less than 10 years)	22 21.4%	12 24.0%	23 24.2%	19 27.9%	76 24.1%	$p = 0.602$	
Experience in management (more than 10 years)	81 78.6%	38 76.0%	72 75.8%	49 72.1%	240 75.9%		

¹Literature suggests that starting from \$10 million a distinction exists between SMs and MEs. In this present study, only 42 of the 318 were classified as MEs. Therefore, for the purpose of this study, the threshold of \$1 million is chosen to allow a more balanced distribution. Furthermore, an Anova is created according to the means obtained regarding the sales figure's 5-level scale for each profile. See Table 4.

Table 4: ANOVA-analyses of differences in multilevel factors according to SME profiles

	Proactive	Activist	Reactive	Traditional	Total	Sign. F
Organisational factors						
Age of SME	27.36	23.26	29.28	24.83	26.74	0.200
Sales figure ¹	2.97	2.57	2.57	2.86	2.76	0.001**
Sales growth ²	3.65	3.18	3.27	3.39	3.42	0.004**
Profitability ³	3.36	3.16	3.18	3.26	3.25	0.478
Individual factors						
Age of leader	49.75	49.92	49.76	48.71	49.56	.898

¹ Sales depending on a 4-level scale (less than \$100K; \$100K to \$1M; \$1M to \$10M; \$10M to \$50M)

² Over the last 3 years, compared to the following criteria, the firms' results have been: 1 - Much lower than your objectives 3 - in line with your objectives 5 - Much higher than your objectives

³ Over the last 3 years, compared to the following criteria, the firms' results have been: 1 - Much lower than your objectives 3 - in line with your objectives 5 - Much higher than your objectives

The results shown in Table 3 and 4 reveal that only 5 of the 16 factors allow differentiating the 4 types of SMEs. Those 5 factors are contextual and organisational factors. Among them, other than the industrial sector, 4 of them seem to have a positive correlation to the strategic profile, such as belonging to a network that promotes SD, internationalisation of activities (depending on the level of exports), level of sales figure, and sales growth. Cramer's V measure of effect size indicates that most of the variations are the ones related to belonging to a network that promotes SD ($V = .19$), followed by internationalisation ($V = .17$); sales figure ($V = .15$). They will be looked at more in detail to better understand the correlations that were observed. We will also suggest possible lines of explanation.

Strategic SMEs are more inclined to be involved in networks that value SD. This finding validates the suggestion made by Del Baldo (2012) and de Jämsä, Tähtinen, and Pallari (2011), and it is particularly revealing regarding those who support SME. Sustainable development networks either have appreciable influence over SMEs who affiliate with them, or notable strength of appeal towards strategic SMEs. With regards to the link between exports – as a measure of business internationalisation – and SD practices, Gjørberg (2009) and Koos (2012) suggest a positive correlation between them that could be explained as follows: Exposure to different cultures, various regulations, specific working conditions and variability regarding human rights can help develop a sense of SD awareness amongst SMEs and allow the latter to be proactive on that path (Ketola, Blombäck & Wigren, 2009). This differs from the findings since traditionalist (low level of SD) and strategic SMEs are closely correlated to higher levels of exports. In other words, correlation between the level of exports and the level of SD commitment does not exist. With regards to exports, it is the EO dimension that explains the differences observed with the SME profiles of this study. This confirms the findings of other studies:

Entrepreneurial orientation does influence the internationalisation of SMEs (Kuivalainen, Sundqvist & Servais, 2007; Lan & Wu, 2010; Javalgi & Todd, 2011).

The same phenomenon seems to occur with the sales figure. The strategic and traditionalist SME have higher sales figures than the activist, and to a lesser extent, to the reactive. Here, the difference could mainly dependent on EO, since its impacts on SME performance have been shown in past studies (Wiklund & Shepherd, 2005; Runyan, Droge & Swinney, 2008; Rauch et al., 2009; St-Jean, LeBel & Audet, 2010). There are more traditionalist SMEs in the primary and production of goods industry. Yet, their level of tangibility (pollution) is higher, in comparison to the two others (trade service and services), their regulations are tightened and their level of pressure is higher (Perez-Batres et al., 2012; Uhlaner et al., 2012). These factors should instead encourage SMEs to be more strategic. Our findings offer a different picture. In this sense, it would be important to organise awareness campaigns to inform SMEs of the importance of SD issues and how they could benefit from them.

Last, the strategic SMEs high level of sales, considering that their profitable levels are similar to others (Anova in table 6), may indicate that this is more a competitive positioning choice. The strategic SME perceive themselves as being successful in selling more products (sales figure growth) and SD services, yet they do not seem to benefit from the growth profitability, which is perceived as being the same for other types of SMEs. Could it be that the costs incurred to generate the additional sales nibble away profits? More specific studies would help resolve this and others questions mentioned in the discussion, where certain limitations are identified.

6. Discussion

This study shows that SMEs distinguish themselves by their commitment towards SD and their entrepreneurial orientation. The crossed scores of these two dimensions have allowed to position the four clusters of SMEs on a sustainability matrix; the strategic, traditionalist, reactive and activist. This distinction between profiles can also be noticed from five of the sixteen multilevel factors that were studied: belonging to a network, tangibility of activities, internationalisation, sales growth and level of sales figure. Based on these results, one could say that the factors that prevent SMEs from adopting a strategic approach regarding SD are few. Differences concerning age of the company, age and experience of the leader, gender, education (level, specialisation), size, capital structure (family) and profitability do not seem to be an obstacle. In other words, as suggested by many researchers, practitioners and mentors, it is possible for SMEs to be strategic regarding SD without fear of affecting their profitability, nor their market position. This further reinforces the concept regarding “business case” described in various readings in the last 40 years, which suggest a positive relation between sustainable performance and economic performance (Carroll & Shabana, 2010).

7. Theoretical contribution

A new typology is suggested to mitigate various gaps identified in frequently cited literature. Unlike the models of Spence and Rutherford (2001) and Parker et al. (2009), the typology in this paper illustrates that the two axes of the matrix are mutually exclusive, that construct and measures are congruent with those best used and understood by SMEs, such as entrepreneurial orientation which “have become firmly embedded in the nomological network of entrepreneurship research” (George & Marino, 2011, p. 990) and that the sustainability axis integrates the two sustainability measures, i.e. environment and social aspects. It is also one of a few researches that integrates various levels of analysis-contextual, organizational and individual

-in a single conceptual framework. This answers to Aguinis and Glavas (2012), which also resonates with more recent work from other researchers, including those of Athanasopoulou and Selsky (2015). The simultaneous consideration of the three levels of analysis allows qualifying the premise of the importance of individual factors within research on the determinants of DD in the context of SMEs. Based on the results, individual factors have little explanatory power for the choice of SD practices made by SMEs. Whether it is age, gender, education level or specialisation of the leader, these variables do not seem related to SME profiles on sustainable development.

8. Applied implications

The results could be useful for public agencies or those supporting SMEs development on the SD path. The latter tend to offer generic arguments referring to the economic benefits of sustainable behaviours. As demonstrated in the above results, there are four distinct SME profiles, of which only one is especially sensitive to economic reasons for getting involved in SD; that is the tradition profile. The other groups are either interested (reactive) or already convinced of the importance and relevance of integrating SD practices in their SME strategy (strategic and activist). Hence, public policies should target SMEs according to their respective levels of development on the EO and SDC scales or lose their impact. In addition, depending on the results, public agencies and those supporting SMEs regarding SD, can first focus on two aspects. First, ensure greater awareness regarding SD from SMEs in the primary and production of goods industry that are more traditionalist, therefore less involved in SD compared to SMEs in other sectors. This is even more significant for these SMEs when they are in urban areas. They offer great potential for improvement as they have a high level of entrepreneurial orientation (innovation, risk-taking, proactiveness) and could probably be convinced of the economic benefits regarding SD commitment. For them to convince and support them along the way, the use of networks seems to be the preferred method. In this sense, supporting the creation and development of SD networks, particularly in urban areas, is a strategy that deserves attention. For example, the successful experience of Enviroclubs¹ described by Lanoie and Rochon-Fabien (2012) can probably be replicated by targeting more precisely SMEs with the greatest potential for development in terms of SD (for example, strategic SMEs), but also the traditionalists whose every move will be a significant improvement, considering their level of current involvement.

9. Limitations and Future Research Directions

Some of the limitations related to this study need attention. First, even though the final sample of SMEs was rather impressive, the number of participants, in terms of proportion, who completed the questionnaire was rather low (1.5%). In this case, the small size of the sampling could cause an overestimation in the strategic and activist rate, and an underestimation in those related to traditionalist and reactive SMEs, since, as supposed by their behavioural profile, did not answer the questionnaire. Second, despite a rigorous methodology used in developing the measure of sustainable development commitment (SDC), its validity and stability need to be established through time and further studies. This being said, two factors deserve particular attention: 1- the individual variables do not seem related to the types of SMEs; 2- belonging to a network that supports SD seems effective in encouraging SMEs to commit to SD. Given the

¹“The Enviroclub initiative was developed by three federal government agencies-Canada Economic Development for Quebec Regions, Environment Canada and the National Research Council Canada- and launched in 2001 to assist small and medium-sized enterprises (SMEs) in improving their profitability and competitiveness through enhanced environmental performance” (Lanoie & Rochon-Fabien, 2012, p. 217)

theoretical importance related to the first factor, namely that a whole section of the literature related to SMEs is based on the premise that the SMEs strategy is intimately linked to the preferences and profile of the leader (Miller & Toulouse, 1986), other works that integrate multiple levels of analysis will be needed to confirm or refute our findings. As to the second factor, a more parsimonious lighting on the direction of the relationship (which variable explains the other) between involvement in a network, and the strategic profile, certainly requires qualitative studies to better understand the influence process that takes place. This is a research perspective that may prove to be particularly enlightening, in terms of public policies to promote the involvement of SMEs towards SD.

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APPENDIX 1

Engagement in Sustainable Practices construct

A. The Firm and the environment					
Concerning environmental practices in your firm you :					
Never 1 2 3 4 5 Systematically / Not applicable for our activities (NA)					
1. separate your garbage and waste (recycling of materials: paper, plastic, glass and metal).					
2. raise the awareness and/or train your employees in water and/or energy conservation.					
3. give priority to more water and energy efficient equipment					
4. encourage and support your employees to use alternatives means of transportation to commute instead of single occupancy cars(Ex. ride share, public transport, bicycle, etc.).					
5. contribute to activities of organisations involved in environmental protection.					
6. consult your stakeholders (Ex. employees, suppliers, clients, creditors, etc.) for your environment related decisions.					
7. have established metrics that you monitor (Ex. Regarding risks, levels of pollution, of energy consumption, waste, etc.).					
8. communicate your actions to your external stakeholders (Ex. website, reports, etc.).					
9. the practices that your firm has implemented are integrated in explicit policies and objectives, action plans and procedures.					
B. The firm and human resource management					
In your firm, in terms of human resource practices, you :					
Never 1 2 3 4 5 Systematically / Not applicable for our activities (NA)					
10. seek to obtain great diversity amongst your employees (young, old, immigrants, in reinsertion, men, women, etc.).					
11. organise health and safety training at work.					
12. involve employees in decision making.					
13. communicate your actions to your external stakeholders (Ex. website, reports, etc.).					
14. The practices that your firm has implemented are integrated in explicit policies and objectives, action plans and procedures.					
C. The firm and its implications in the community					
In terms of community involvement and local development, you :					
Never 1 2 3 4 5 Systematically / Not applicable for our activities (NA)					
15. consult your stakeholders (employees, suppliers, clients, creditors, associations, NGO, etc.) for your decisions concerning local development.					
16. favour job creation in your region.					
17. communicate your actions to your external stakeholders (Ex. website, reports, etc.).					
18. the practices that your firm has implemented are integrated in explicit policies and objectives, action plans and procedures.					