

The Influence of Decisional Autonomy on Performance and Strategic Choices – The Case of Subcontracting SMEs in Logging Operations

Etienne St-Jean and Luc LeBel
*University of Quebec at Trois-Rivieres & Université Laval
Canada*

1. Introduction

The emergence of new actors in the globalized economy has given rise to increased competition in a number of economic sectors, including the forest industry. The logging industry in Canada has seen challenging times in recent years, as it faces problems at both the structural and cyclical levels. Increases in the cost of fibre, currency exchange rates and compensatory fines on timber that are detrimental to exports to the United States, higher energy costs, a decrease in the price of timber and some paper products, the increasing scarcity of resources: the industry faces many serious problems.

As of the late 1970s, industrial activity in the forests of Eastern Canada quickly evolved from a structure that was almost entirely controlled by the large pulp and paper companies to a more flexible and decentralized organization, characterized by the generalized use of subcontractors (Mercure, 1996). Once salaried workers employed by a company, subcontracting forest entrepreneurs have become business managers. As the orchestrators of the operations with which they have been entrusted, entrepreneurs must possess a diversified skill set composed of ever more complex abilities. Pressure from competition within the industry pushes the large companies to demand even more from their subcontractors, who must improve their performance to survive.

Since those operations had previously been conducted by the large companies, who may tend to view their subcontractors as an extension of their own business, such a situation could reduce their decisional autonomy and entrepreneurial behaviours, two elements likely to limit their performance. In a highly competitive context, where the performance of one player in the value chain affects all of the businesses involved, this could prove to be dramatic. The objective of this study was to see whether the strong commercial dependency of subcontracting SMEs in logging operations, as well as their potential loss of decisional autonomy, has a negative influence on their performance and strategic choices.

2. The forest industry of eastern Canada

In Quebec, logging is still predominantly conducted by the large corporations (Blais & Chiasson, 2005). Accordingly, forest entrepreneurs essentially provide these companies with

logging, forest road construction or log transport services. As a consequence, they find themselves in a subcontractor business relationship, as indicated by Legendre (2005). Studying the evolution of subcontracted contracts in the forest industry, the author notes that risks and responsibilities have been relegated to the small logging businesses, which are “[...] completely dependent economically and financially on the [large corporations] and have almost lost all of their organizational independence” [translation] (Legendre, 2005). This fact becomes more tangible when we consider statements by Canadian economic analysts, who view small logging companies as dependent on large organizations, with the main goal of providing these organizations with the flexibility they need to restructure in a post-Fordist economy, as highlighted by Bronson (1999).

Public forests account for a little over 90% of Quebec’s woodlands. The vast majority of Quebec’s forest harvesting, transport and road construction entrepreneurs are commercially dependent, working for only a few main contractors which determine the felling areas and, notably, the rates paid out for wood supplies. Commercial dependency is defined as a situation where a limited number of relatively undiversified customers (or suppliers) generate more than three-quarters of a company’s turnover (Rinfret *et al.*, 2000). This situation is prevalent in the logging industry, where 49.4% of Québec forest entrepreneurs have a single customer which accounts for their entire turnover, and 81.1% have only three or fewer customers (PREFoRT, 2007). This commercial dependency could significantly influence their performance and reduce their strategic leeway. Since the emergence of forest entrepreneurs is the consequence of a strategic choice on the part of large forest product companies to focus on their core competencies and to contract out logging, transport and logging road construction activities, it is reasonable to assume that not all owner-managers of logging companies exhibit entrepreneurial behaviours such as innovation and the quest for growth and profits (Carland *et al.*, 1984; Fillion, 2005; Gartner, 1989). From this perspective, the dependency situation could influence entrepreneurial behaviour and, as a result, logging SME performance.

3. Commercial dependency and performance of the SME

The literature pertaining to commercial dependency suggests that SME dependency on one or a limited number of clients leads to a decrease in entrepreneurial behaviours by the manager, who may be tempted to settle for his subcontracting role (Raymond & St-Pierre, 2002; Wilson & Gorb, 1983). In the forestry industry, the contract provider issues a number of set specifications governing a forest entrepreneur’s operations, for example, by setting restrictions on log length, the quantity of wood cut, and even on certain work methods and tools to be used (Legendre, 2005). From this perspective, it becomes increasingly difficult for an entrepreneur to innovate, even though innovation is often considered as fundamental in evidencing entrepreneurial action (for example, Risker (1998)).

In many cases, as noted by Holmlund and Kock (1996), subcontractors have no choice but to follow the contractor’s orders, even though they may result in unprofitable operations. In fact, it has been noted that the profit margins of commercially dependent SMEs are lower than those who work for a broader range of clients, even taking into account their lower sales and administrative costs (Rinfret *et al.*, 2000). Explanations could lie in their reduced ability to negotiate pricing with the few big companies subcontracting them.

Furthermore, commercial dependency also involves the notion of power (Emerson, 1962), which is essentially concentrated in the hands of the contractor. It is therefore not surprising to discover that relationships characterized by strong commercial dependency, and therefore unequal power, are often dysfunctional, unstable, or devoid of trust (Corsten & Felde, 2005; Kumar *et al.*, 1995). Relationships where contractors have considerable power over their subcontractors result in lower profits for the latter. (Cox *et al.*, 2004). The difference in size of the businesses could explain the difficulties SMEs experience in negotiating as equals with large contractors (Ramsay, 1990). Moreover, significant changes in the volume of business they receive from a large contractor could lead to radical fluctuations in the growth rate of SMEs (St-Jean *et al.*, 2008). As a result, it is recommended that small businesses which are dependent on one major client diversify their operations to reduce risk (Henricks, 1993; Kalwani & Narayandas, 1995). Reducing commercial dependency thus enables SMEs to better negotiate pricing for their products and services with large organizations (Wilson & Gorb, 1983).

Thus, decisional autonomy is the more appropriate term in the context of interaction between a subcontractor and his contractor. For example, an entrepreneur could be commercially dependent, given that his order book is essentially filled by a single client, but nevertheless be left with decisional autonomy with regard to the manner in which the contract is fulfilled and prices set, remaining free to do business with the contractor's competitors, etc. The concept of decisional autonomy has in fact been raised by Lyons *et al.* (1990), who indicated that losing this decisional autonomy could even result in reduced autonomy with regard to strategic choices. The contractor's power can go so far as to influence strategic choices such as decisions related to innovation or product range (Inderst & Shaffer, 2007; Inderst & Wey, 2007). Although client concentration is a risky strategy for subcontracting SMEs (Kalwani & Narayandas, 1995), the negative effects could be less pronounced for SMEs which do not experience some form of "strategic dominance" on the part of the contractor, which underscores the significance of considering the decisional autonomy of commercially dependent subcontracting SMEs.

However, the relationship between commercial dependency and performance is not very clear, in particular with regard to certain specific industries. For example, Mäkinen (1993) reported that Finnish forest entrepreneurs achieved satisfactory financial results if they worked for a single "good" contractor, which provided enough suitable work (therefore more profitable) to the entrepreneur. This is also the case with businesses operating in highly competitive global markets such as, electronics, tooling/machinery and the automobile industry, where commercially dependent subcontractors enjoy greater growth (Kalwani & Narayandas, 1995). In the textile industry, on the other hand, strong commercial dependency on the part of subcontractors and pressure exerted by the work-providing manufacturers force these subcontractors to lower their production costs to avoid having to close down their business for lack of contracts (Kilduff, 2005; Remili & Carrier, 2006). Within the aerospace industry, for example, three subcontractor categories can be identified, each characterized by a typical contractor/subcontractor relationship: subcontracting of economy (strong dependency), subcontracting of specialization (complementary relationship) and subcontracting of supply (power equilibrium) (Amesse *et al.*, 2001). Thus, commercial dependency comes with certain advantages and inconveniences for subcontracting SMEs, which can negatively but also positively influence performance (Barringer, 1997).

These elements suggest that the notion of decisional autonomy should be examined alongside commercial dependency in a parallel manner. The notion of commercial dependency, based on the high concentration of sales in the hands of a single or limited number of clients, does not make it possible to consider the level of decisional autonomy, which may be significantly, albeit not systematically, reduced by commercial dependency. As mentioned above, SMEs may maintain decisional autonomy, even in a situation of commercial dependency, where they hold a competitive advantage that renders them essentially indispensable to the contractor, as is the case with subcontracting of intelligence (Julien, 2000).

4. Research hypotheses

This study aimed at examining the effect of commercial dependency and decisional autonomy on subcontracting logging SME performance. Although certain nuances may be noted according to the studies under review, commercial dependency negatively affects SME performance. In particular, subcontractors achieve lower profits where contractors hold considerable power over them (Cox *et al.*, 2004). Such was the case in the automobile industry in the 1970s, for example, where the large manufacturers used their power to constantly negotiate lower prices, to the detriment of the subcontractors (Perrow, 1974). Inversely, client diversification into foreign markets, which reduces dependency on national clients, allows for higher profits (Daniels & Bracker, 1989). This suggests the following hypothesis:

H₁: Commercial dependency negatively influences logging SME performance.

As with commercial dependency, contractor interference with a subcontracting SME's strategic choices could hinder their performance. Inversely, greater decisional autonomy should positively influence performance, which leads to the following hypothesis:

H₂: Decisional autonomy positively influences performance.

In addition, commercial dependency could considerably reduce the decisional autonomy of the SME's managers. Aware of their subcontractors' dependency, contractors could end up viewing them as an extension of their own business and use their power to impose constraints with regard to their strategic choices. This suggests the following hypothesis:

H₃: Commercial dependency reduces decisional autonomy.

Lastly, in a situation where a subcontractor's decisional autonomy is limited by the power exerted by a contractor, an SME manager's strategic choices may be limited. This situation is commonly found among commercially dependent subcontractors, in low-technology contexts in particular. These subcontractors eventually develop specific strategies to reduce their dependency and, as a result, reduce risk (Jansson & Hilmersson, 2009). In addition, it is noted that the contractor's strategic choices must be aligned with those of the subcontractor, for example, when they choose a strategy of innovation (Isaksen & Kalsaas, 2009). As a result, greater decisional autonomy can allow for a broader range of strategic choices, which suggests the following hypothesis:

H₄: Decisional autonomy influences strategic choices.

5. Research methodology

5.1 Population and sample

To answer our research questions, we used the data collected during a follow-up survey of a sample of 717 Québec subcontracting logging SMEs, which represents 28% of the total SME population in this sector, and who had responded to a prior investigation in 2006. The follow-up with this SME sample was conducted in 2009, where 265 SMEs responded to our questionnaire, for a response rate of 37%. The questionnaire was sent to, and answered by, the SME owner.

5.2 Measures

Commercial dependency is defined as a situation where a small number of clients accounts for more than 75% of the turnover (Remili & Carrier, 2006; Rinfret *et al.*, 2000). However, rather than providing a statement where respondents must determine whether or not their business is in a situation of commercial dependency, which would have created a dichotomous variable, respondents were asked to determine the approximate percentage of their turnover that was attributable to their main client. This provided us with a metric variable (from 0 to 100).

We also measured the *decisional autonomy* of subcontracting logging SMEs with respect to six (6) components: the price of services, selection of employees, their working conditions, the nature of the contracts to be fulfilled, the manner in which the work is to be carried out and the tools or technology to be used. These dimensions were selected by researchers following comments collected during round-table discussions on the subject conducted during a symposium that drew over one hundred forest entrepreneurs. For each dimension, respondents were asked to select the most appropriate situation, from a graduated seven (7)-point scale from 1-My clients make all the decisions to 7-My business makes all the decisions.

SME performance is obviously a multidimensional concept (Wolff & Pett, 2006). This suggests that measures of performance should be based on multiple indicators related to a business's strategic goals (Kaplan & Norton, 1992). We therefore selected eleven (11) performance indicators: increases in revenue, number of employees and profit margin (Le Roy, 2001; McMahon, 2001), improvements in production techniques and use of new technology (Beamon, 1999), quality and variety of services and client satisfaction (Perera *et al.*, 1997), personnel recruitment and retention (Ulrich, 1999), investment in the community (Graves & Waddock, 1994), and respect for the environment and sustainable development (Gondran & Brodhag, 2003).

These measures are subjectively based on the respondent's perception of his performance compared to his two main competitors. The measurement scale varies from 1-*Very inferior to the others* to 5-*Very superior to the others*. Although this manner of measuring performance has its limitations, due in particular to increased measurement error, previous research has demonstrated that perceptual performance measures correlate significantly with objective measures (Murphy & Callaway, 2004; Murphy *et al.*, 1996). Given the fact that the businesses under study were all independent and private, that managers are rarely prepared to divulge financial information, and that it is unlikely that objective data is available for certain dimensions, we selected a subjective approach, which is the suggested course of action for these types of situations (Dess & Robinson, 1984).

Lastly, with respect to the strategic choices, we asked the managers to indicate their strategies for the next five (5) years from the following options: *no significant change, growth, diversification within the forest, diversification outside the forest* and *selling/closing the business*. Multiple choices were allowed, and each variable was coded "1" (selected) or "0" (not selected).

5.3 Data analysis

Before testing our hypotheses, we first verified the factor pattern for decisional autonomy, since this is a new measure and this concept may conceal more than one dimension. Correlations were subsequently calculated to test hypotheses H₁, H₂ and H₃. Lastly, binary logistic regressions were calculated to verify the effect of decisional autonomy on the probability of making certain strategic choices (H₄).

5.4 Results

5.4.1 Descriptive data

Subcontracting logging SMEs have an average of 5.54 employees, excluding the owner (median of 3) and 84.8% of the sample had fewer than ten (10) employees. The average turnover is \$2.05 million CDN (median of \$500,000). With regard to commercial dependency, our sample can be considered to be strongly dependent on contractors, since the main client represents an average of 85% of the turnover (median of 100%). In fact, for 73.8% of logging SMEs, the main client represents 75% or more of the turnover and 55.7% of SMEs only have one client.

With regard to decisional autonomy, we noted certain differences in distribution among each of the components (see Table 1). For example, where the price of services is quite well distributed, such is not the case for selection of employees, where a strong majority of SMEs have low to complete autonomy. It should be specified that respondents were asked to indicate the SME's decisional autonomy, from a unilateral decision on the part of the client (1), to a decision entirely made by the SME (7), where the neutral response (4) is the equivalent of a negotiation between equal parties.

With respect to performance, all measures had a median of 3.00 (the measure varied from 1 to 5) and averages varied from 2.91 to 3.57, which corresponds fairly well to normal distributions and which is to be expected for this type of measure.

	Client (1-3)	Equals (4)	SME (5 to 7)	Average	Median
Price of services	49.4%	16.0%	34.6%	3.54	4.00
Selection of employees	19.9%	5.8%	74.3%	5.51	7.00
Working conditions	19.6%	13.7%	66.7%	5.24	6.00
Nature of the contract to be fulfilled	51.6%	11.2%	37.2%	3.47	3.00
Manner in which work is to be carried out	37.2%	13.4%	50.6%	4.19	4.00
Tools or technology to be used	20.9%	13.5%	65.6%	4.97	6.00

Table 1. Distribution of Decisional Autonomy Components

5.4.2 Factor analysis of decisional autonomy

An exploratory factor analysis was conducted with the decisional autonomy components. Only one item with a communality of less than 0.5 was removed, namely *autonomy with respect to tools or technology to be used*. Table 2 presents the two factors with an Eigenvalue greater than 1. These factors explain 80.62% of the total variance. The first factor, which we have entitled *autonomy of human resources (HR)*, includes autonomy with regard to selecting employees and working conditions. Cronbach’s Alpha Cronbach (1951) for autonomy of human resources is 0.844.

	Autonomy of HR	Managerial autonomy
Selecting my employees	0.936	
Working conditions	0.899	
Price of our services		0.847
Nature of contracts to be fulfilled		0.893
Manner in which work is to be carried out		0.847
Cronbach’s Alpha	0.844	0.837

Table 2. Factor Analysis of Decisional Autonomy

The second factor, entitled *managerial autonomy*, includes autonomy with respect to the price of services, the nature of the contracts to be fulfilled and the manner in which the work is to be carried out. Cronbach’s alpha for managerial autonomy is 0.837. Autonomy of HR has an average of 5.38 out of 7.00 (median 6), whereas commercial autonomy has an average of 3.75 out of 7.00 (median 3.8).

At first glance, it may seem rather odd that the autonomy of human resources emerges as a distinct factor. These results must be replaced in their historic context to understand their relevance. As mentioned above, during the late 1970s, the large forestry companies moved away from logging operations and began hiring subcontractors, which led to the birth of a number of forest entrepreneurs. Many of these employees were unionized and did not want to lose their benefits as a result of the logging operations being subcontracted out. In Quebec, the *Labour Code* governs union rights. Section 2 of the Code provides that the logging operator (e.g. the big contracting company) shall be deemed to be the employer of all the employees engaged in his logging operations, including the subcontractor’s (e.g. SME) employees. This statutory exception, which is specific to the forest industry, means that subcontractors working for a unionized contractor must abide by the agreements entered into between the union and the contractor, even if they were not consulted during the collective bargaining process. Thus, some subcontractors have little leeway with regard to the management of human resources, which explains why this factor emerges as distinct.

5.4.3 Testing the hypotheses

Since the commercial dependency variable does not follow a normal distribution (several SMEs in the sample are in a strong dependency situation), Spearman’s Rho correlation test was used. As illustrated in Table 3, three (3) measures of performance are negatively

influenced by commercial dependency, that is, the quality and variety of services, as well as customer satisfaction. This partially confirms H_1 . With respect to HR and managerial autonomy, only respect for the environment and sustainable development are positively influenced by managerial autonomy, which partly confirms H_2 .

	Commercial dependency	Autonomy of HR	Managerial autonomy
Increase in revenues	-0.144	0.076	0.013
Increase in the number of employees	0.130	-0.113	-0.155
Profit margin	-0.017	0.112	-0.139
Improvements in production techniques	-0.135	0.098	0.003
Use of new technology	-0.133	0.105	0.078
Quality of client service	-0.269**	0.121	-0.075
Variety of services	-0.346***	0.157	0.061
Client satisfaction	-0.198*	0.127	0.010
Personnel recruitment and retention	-0.042	0.022	-0.108
Investment in the community	0.004	0.091	-0.138
Respect for the environment and sus. dev.	-0.160	0.094	0.164*
* $p \leq 0.05$ ** $p \leq 0.01$ *** $p \leq 0.001$			

Table 3. Correlations Among Measures of Dependency and Autonomy and Performance

Our analyses also reveal an inverse relationship between commercial dependency and the two measures of decisional autonomy (Table 4). This confirms H_3 .

	Commercial dependency	Autonomy of HR	Managerial autonomy
Commercial dependency	1.00		
Autonomy of HR	-0.272***	1.00	
Managerial autonomy	-0.315***	0.241**	1.00
* $p \leq 0.05$ ** $p \leq 0.01$ *** $p \leq 0.001$			

Table 4. Correlations Among measures of Dependency and Autonomy

To verify the effect of decisional autonomy on strategic choices, a binary logistic regression was calculated for each strategic choice. The goal was to determine whether decisional autonomy influenced the probability of choosing (or not) this strategy for the coming years. The “step by step” method was used, where business size (number of employees) and the number of sectors were included as control variables. Business size could influence choices of growth and diversification. The number of sectors is a variable that computes the various services offered by the SME, such as harvesting, logging-road construction and wood transport. The more services an SME offers, the less likely it is to want to diversify within the forest, since it has already done so.

As illustrated in Table 5, only the strategies of growth and diversification of logging activities can be influenced by decisional autonomy. Specifically, managerial autonomy positively influences growth. The model enables us to correctly predict the strategic choice of growth in 88.1% of cases with these variables. With respect to diversification of logging activities, autonomy of human resources is the influential factor. The results therefore partly validate H₄.

6. Discussion

As we have noted, commercial dependency negatively affects performance with regard to the client, namely, the quality and variety of services offered and client satisfaction. This result is interesting because it highlights the fact that commercially dependent subcontractors provide poorer client service. This result suggests that over the course of a long-term relationship, subcontractors could deploy fewer efforts to satisfy the client, and limit themselves to initial contractor demands. However, where subcontractors have several clients, they must stay tuned to their specific needs, which helps improve client satisfaction as well as the efficiency of the overall value chain of their partners (Heikkilä, 2002). Nonetheless, any difficulty on the part of subcontracting SMEs to meet client requirements could reduce their performance (Bourgault, 1998). In a situation where the larger contractors are reducing their involvement in logging operations, SMEs less capable of meeting their requirements could disappear for lack of contracts.

	No change 67 cases		Growth 23 cases		Diversification within the forest 42 cases		Diversification out of forest 38 cases		Close/ Sell 20 cases	
	β	Exp (β)	β	Exp(β)	B	Exp (β)	B	Exp(β)	β	Exp(β)
Size	-0.02	0.98	0.00	1.00	-0.01	0.99	0.25	1.03	0.02	1.02
No. sectors	0.21	1.23	-0.16	0.85	0.31	1.36	0.18	1.20	-0.26	0.77
Comm. Autonomy.	-0.04	0.96	0.36*	1.44	0.02	1.02	0.02	1.02	0.19	1.21
Autonomy HR	-0.14	0.87	0.143	1.15	0.32*	1.38	0.16	1.18	-0.14	0.87
Fit index										
Number of cases ¹	135		135		135		135		135	
Nagelkerke R ²	0.038		0.117		0.117		0.080		0.062	
χ ² (d.l. = 4)	3.866		8.408		10.796		7.216		6.329	
% Correct pred.	63%		88.1%		77.0%		79.3%		63.0%	

* p ≤ 0.05 ** p ≤ 0.01 *** p ≤ 0.001

Table 5. Influence of Decisional Autonomy on Strategic Choices

We were somewhat surprised by these results, since no other measure of performance is influenced by commercial dependency. These results could lend credence to the proposal by Julien (2000), who argues that the subcontractor’s dependency is strongly dependent on the nature of the relationship itself, which varies from “subcontracting of capability” to

¹ The cases observed with missing data were removed from the analysis.

“subcontracting of specialty” and “subcontracting of intelligence”. According to this author, contractors are more dependent on their subcontractors in a “subcontracting of intelligence” relationship than in a “subcontracting of capability” relationship where they can more freely impose their directives and demands. According to Legendre (2005), the large logging companies haven’t had in-forest expertise for some thirty years, since this work has been sub-contracted out. They must ensure that their subcontractors benefit from their relationship, or the SMEs will shut down their operations, and the contractors will suddenly face supply shortages. Unlike major contract providers in the manufacturing sector, which can import offshore parts through delocalized production (Lecler, 1991), the larger logging companies must deal with local subcontractors, since their services are not as easily delocalized.

Moreover, as was demonstrated in a study that highlighted the relationship between two producers and a distributor (Bergès & Chambolle, 2009), we note that the distributor is prepared to concede a greater portion of the added value to the producers (*i.e.* pay a higher price for their products) if he is concerned about one of them going out of business, thereby reducing his number of potential suppliers, which he feels may negatively affect his own future performance. In this context, commercial dependency is not a determining factor to explain performance. Other dimensions, such as the development of relationships geared towards the long-term between a contractor and a supplier, could be more useful in influencing subcontractor performance (Paulraj *et al.*, 2008).

Hence, in a relationship based on trust geared towards the long-term, we note that commercially dependent subcontractors are more inclined to innovate, even if they are unable to correctly assess the benefits they will reap, as long as they have identified a need to be fulfilled on the part of the contractor (Kamath & Liker, 1990). In other words, if the subcontractor strongly believes that he will reap benefits by following the contractor’s directives, he will take more risks since he expects better performance. The subcontracting relationship, in fact, shares similar mechanisms with an employment relationship, where the contract (employment or subcontracting) is in fact an exchange of promises where both parties take a gamble (Baudry, 1992). In this case, as the author suggests, the relationship of authority only ensures partial coordination and requires a certain amount of trust and confidence to validate this gamble.

This study has enabled us to highlight a concept that is specific to subcontracting SMEs, that is, decisional autonomy. In a situation of commercial dependency, some contractors use their power over the SME to interfere in the management of their business, thereby curtailing their decisional autonomy. Our results suggest that these concepts are inter-related, but remain nevertheless distinct. Decisional autonomy does not influence performance in quite the same manner as commercial dependency. Furthermore, this concept is much more specific than having the order book being concentrated in the hands of a few contractors, and takes into consideration not only the number of clients involved, but rather the nature of the relationship between contractors and their subcontractors.

Our analyses demonstrate the existence of two distinct factors with regard to decisional autonomy, namely, managerial and human resources autonomy. The former corresponds to interference on the part of the contractor with regard to the price of services (or products, in another context), the nature of the contracts and the manner in which they are fulfilled. The

nature of contracts refers to the decision on the part of the contractor to determine which felling areas² are to be awarded to a particular subcontractor. In this type of situation where there's little negotiation over price, which may even be imposed by the contractor, selecting the felling area becomes a strategic issue. Some areas are more easily accessible, trees are bigger, etc. As a result, dollar for dollar, the better felling areas allow for greater profits since operating costs are lower.

The human resources autonomy factor, as mentioned above, is rooted in a historical situation where some subcontractors are required to abide by union agreements with the contractor to ensure that their employees continue to enjoy the benefits they had gained while employed by the contractor. However, this factor is not necessarily unique to the forestry sector. In the automobile industry, Laval (1998) highlighted the influence of the contract provider's human resources policies on subcontractors through their purchasing policies. In other industries, contract providers may suggest that subcontractor employees undergo training to meet industry standards (Esposito & Raffa, 1996). Although there may well be a sectoral and historic effect on our data, it is reasonable to suggest that this factor could be equally significant in other industries where SMEs are deeply involved as subcontractors.

It was surprising to note that autonomy of HR did not positively influence SME performance. As suggested by Naro (1990), human resources must be aligned with the strategic directions of the SME and its management in order to gain a competitive advantage. As a result, it is not surprising to note that HRM positively influences SME performance (Lacoursière *et al.*, 2005). Thus, in a situation where SMEs lose their autonomy over decisions about their employees and working conditions, an effect on performance would be expected. However, it is possible that SME managers believe that the contractor imposes certain restrictions with respect to human resources, but that even without these restrictions, they would have to hire the people who are available and offer them the same benefit packages as their competitors. In other words, despite the perceived loss of autonomy, the sectoral constraints that affect human resources, such as the shortage of qualified labour and salary standards, impose, in themselves, restrictions that reach beyond any potential interference on the part of the contractor. As a result, all SMEs are equally affected, since our study is uni-sectoral, which could cancel the effect of autonomy of HR on SME performance. Studies within other industries would be required before drawing any conclusions in this area.

Managerial autonomy of subcontracting SMEs positively influences performance with regard to respect for the environment and sustainable development. This suggests that the more leeway SME managers have to make decisions about their commercial strategy, the more involved they become in achieving excellence with regard to the environment. It would appear that once managers lose their managerial autonomy, they simply do what the contractor asks them to do. Inversely, when managers maintain their autonomy with regard to their business decisions, their personal goals are likely to influence their performance objectives and the performance of their SME (St-Pierre & Cadieux, 2009).

² A felling area represents the surface area for which a sub-contractor has been given a harvesting contract. Its boundaries are determined according to the plans provided by the contractor.

Autonomy of human resources influences the choice to diversify in the future. These results suggest that such autonomy enables entrepreneurs to have greater leeway to assign staff to other operations, for example, to train logging staff to be able to repair equipment, use machinery to build logging roads or to carry out silviculture duties. Entrepreneurs feel more confident if they feel they can get their employees to contribute to the development of new activities.

Also, managerial autonomy influences the desire to grow in the future. When subcontracting SMEs have little autonomy with regard to their commercial choices, they are not driven to find other clients or to increase sales. It is likely that the little control they have over their commercial choices increases their perceived risk and, as a result, reduces their intention to further develop their activities. As has been noted with other subcontracting SMEs in the defence sector, contractors influence the strategic choices of SMEs/SMIs, in particular so that they can diversify their order books toward other industries (Frigant & Moura, 2004). Thus, they can avoid slowdowns caused by a temporary drop in demand within the industry and remain available for the contractor when business picks up again. Other contractors indirectly impose external growth on subcontracting SMEs, by requiring constraints that only average-sized businesses can implement (for example, a computerized "just-in-time" system, quality assurance practices, etc.) (Tréhan, 2004). In the forest industry, it would appear that the reverse occurs. Subcontractors who do not have choices imposed on them by contractors are more likely to want to grow and diversify to offer turnkey services. Thus, decisional autonomy enables forest entrepreneurs who show significant entrepreneurship to exercise their strategic choices (St-Jean *et al.*, 2010).

7. Limitations

Although this study enables us to discuss a rarely studied concept with regard to the relationship between a contractor and his subcontractors, namely, decisional autonomy, the results should be interpreted within the limitations of the methodology used. First, it should be emphasized that this study used data from a single sector, that is, the forest industry. This may influence the results, for example, with regard to autonomy of human resources, although this aspect has been discussed above. Research on this concept in other industries would be necessary to confirm its accuracy and relevance. The data used were taken from a follow-up survey with initial respondents of a survey conducted in 2006. Given the widespread restructuring that occurred in this industry during this period (factory closures, corporate mergers, etc.), the sample of respondents could be less representative than in the initial probe in 2006, where the entire SME population was targeted for the investigation. However, given the relatively high response rate and number of respondents, the sample can nevertheless be considered reliable.

It should be underscored that the performance measures used in this study are subjective. This is a valid course of action where objective data is unavailable (Dess & Robinson, 1984), but subjective data may be less reliable. With regard to business strategy, we did not require entrepreneurs to choose a predominant strategy, but rather make a selection from possible applicable options. In addition, this did not reflect their observed strategy, but rather their strategic intentions, which could be less stable over time. Lastly, only the subcontractor's vision was considered. No measure of decisional autonomy on the part of the contractor was taken into consideration. This would be an interesting area to investigate in the future.

8. Conclusion

In a context of SME commercial dependency on contractors, the concept of SME decisional autonomy provides an opportunity to consider a dimension that has received little or no attention in past research, the significance of which can be felt in the strategic choices of managers and its influence, if only partial, on performance. Additional research is necessary, however, to validate its effect with regard to other areas that could influence performance, such as the development of SME-specific skills or innovation. Businesses which find themselves in a situation where they have to obey the orders of a contractor may have limited resources to innovate or develop new and promising niche markets. Further studies in this area, and many others, would help contribute to a better understanding of contractor/subcontractor relationships.

This study adds nuance to prior research that did not take into consideration the effect of subcontractor type as a moderator in the relationship between commercial dependency and subcontractor performance (for example, Rinfret *et al.* (2000), Cox *et al.* (2004) or Kalwani et Narayandas (1995)). Since this study was conducted exclusively within the forest industry, our results invite further comparative studies where the nature of the relationship between the subcontractor and the contract provider would be controlled (subcontractor type), which would help better explain the effect of commercial dependency, or even decisional autonomy, on SME performance.

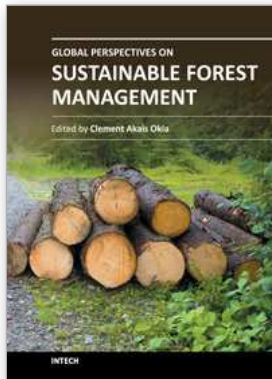
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This book is dedicated to global perspectives on sustainable forest management. It focuses on a need to move away from purely protective management of forests to innovative approaches for multiple use and management of forest resources. The book is divided into two sections; the first section, with thirteen chapters deals with the forest management aspects while the second section, with five chapters is dedicated to forest utilization. This book will fill the existing gaps in the knowledge about emerging perspectives on sustainable forest management. It will be an interesting and helpful resource to managers, specialists and students in the field of forestry and natural resources management.

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