Managerial Innovation and SME Performance in Africa: The Case of Cameroon

By Ben Boubakary, Doumagay Donatienne Moskolai & Gladys Che Njang

Abstract- The introduction of new management practices has become a real imperative for any company; it is more for SMEs because these companies are vulnerable and have a specific management mode, based on the personality of their leader. Moreover, in a constantly changing environment, the performance of any company is now based on this new situation. However, while innovation in general, and managerial innovation in particular, has been successful in the Western context, that of the African context remains unclear and does not seem to be a major concern, especially in sub-Saharan Africa. Therefore, this article proposes a reflection on managerial innovation and the performance of SMEs in Cameroon. By seeking to specify and quantify the degree of influence of managerial innovation on the overall performance of SMEs, the study establishes, through an econometric approach with a sample of 163 Cameroonian SMEs, a positive and significant link between both concepts.

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GJMBR-A Classification: JEL Code: O15
Managerial Innovation and SME Performance in Africa: The Case of Cameroon

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Abstract - The introduction of new management practices has become a real imperative for any company; it is more for SMEs because these companies are vulnerable and have a specific management mode, based on the personality of their leader. Moreover, in a constantly changing environment, the performance of any company is now based on this new situation. However, while innovation in general, and managerial innovation in particular, has been successful in the Western context, that of the African context remains unclear and does not seem to be a major concern, especially in sub-Saharan Africa. Therefore, this article proposes a reflection on managerial innovation and the performance of SMEs in Cameroon. By seeking to specify and quantify the degree of influence of managerial innovation on the overall performance of SMEs, the study establishes, through an econometric approach with a sample of 163 Cameroonian SMEs, a positive and significant link between both concepts.

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I. Introduction

The liberalization of markets and the globalization of trade, with the corollary of the intensification of competition, are having their full impact on organizations, forcing them to use a good strategic sense to stand out of their competitors (Gargouri, 2015). To face this new world order, companies in general, and SMEs, in particular, are called to question a new form of management, better adapted to the need for agility, innovation, but also the fulfillment of employees enabling them to boost their performance: this is managerial innovation. The latter can be defined as a new combination of means, material and conceptual, already existing or new, in the business management process (Gilbert, 1998). For Birkinshaw and Mol (2006), managerial innovation is the implementation of new practices, processes and management structures, which are significantly different from the usual norms. Hamel (2006) considers managerial innovation as a particular contribution to traditional management principles, processes and practices. In a more recent paper, Birkinshaw, Hamel and Mol (2008) define managerial innovation as the invention and implementation of a new practice, process, structure, or management technique. Compared to what is known to better achieve the goals of the organization. It is, therefore, the introduction of a novelty in an organization to improve its performance (Mol and Birkinshaw, 2009).

If this introduction of novelties has become a real imperative for any company, it is more for SMEs when we know that they are vulnerable and have a specific management mode (Julien, 1997), based on the personality of their leader (Quairel and Auberger 2005, Paradas 2006). Moreover, in a constantly changing environment, the performance of any company is now based on this new situation. Various studies have even shown in the past that the failure of African enterprises has various causes (Grégoire 1991, Ouattara 1995, Kamdem 1999), the most important of which is attributed to their lack of innovation. Thus, while in the Western context, companies attach a lot of importance to innovation, the African case remains unclear and does not seem to be a major concern, especially in sub-Saharan Africa (Nkouka Safoulanitou et al., 2013). Yet, it is a source of growth for SMEs, which make up almost the entire business population in Sub-Saharan Africa and contribute more than 30% of GDP (Nkouka Safoulanitou et al., 2013).

The interest in conducting this study within SMEs is no longer to be demonstrated. Indeed, according to RGE (2016), the Cameroonian productive fabric is marked by the predominance of SMEs. In fact, SMEs account for 99.8% of Cameroonian enterprises (79.1% of which are very small, 19.4% of SEs and 1.3% of MEs), which account for nearly 72% of employment and 30% of SMEs. % of the country's GDP. SMEs are, therefore, an undeniable factor in creating jobs and wealth.

According to Article 3 of Law No. 2015/010 of July 16, 2015, amending and supplementing certain provisions of the Law No. 2010/001 of April 13, 2010, promoting SMEs in Cameroon, is considered SME, any business, regardless of its sector of activity, which employs at most one hundred (100) people and whose annual turnover excluding taxes does not exceed three (03) billion CFA francs.

Basically, this study aims to understand the impact of managerial innovation on the performance of African SMEs, more specifically those of Cameroon and Nigeria. Managerial innovation seems like a competitive strategy (Haji Karimi, Hamidizadeh, Nasrin and Hashemi, 2013); the determination of its influence on performance may help to reduce the losses related to the lack of such a practice in African SMEs that employ more than half of the active population (Boubakary, Boukar and Tsapi, 2017). In other words, the purpose of
this research is to contribute to enriching the empirical knowledge that we have about the role of SME innovation in their performance. The thesis that we want to defend here is that innovation behavior variables, very often used to explain differentiation strategies, can have an important explanatory role in improving the performance of SMEs.

The article is divided into three sections: the first section reviews the various existing works, the second illustrates the methodology of our research and the third presents the results of the study.

II. Literature Review

In this section, we will successively present: conceptual literature on managerial innovation, performance conceptualization and theoretical link between managerial innovation and performance.

a) Conceptual literature on managerial innovation

According to the OECD (2005), an innovation is the implementation of a new or significantly improved production of goods or services or processes, a new marketing method or a new organizational method in the practices of a company, the organization of the workplace or external relations. For Hamel and Breen (2007), there are four forms of innovation: product innovation that involves the design of new or technologically improved products or services. It can be at the origin of considerable development of the organization, but it is easily imitable, process innovation that relates to the production or distribution processes of the good or service. It has an undeniable interest, but spread quickly from one company to another and therefore does not seem to be decisive in terms of competitiveness; strategic innovation, which consists in offering a new economic model, which corresponds to a break that could disrupt competition, but whose identification of the key factors of success remains relatively easy, which prevents from proving decisive; the managerial innovation that is most likely to cause a lasting break. It differs from other forms of innovation because it is based on a complex combination of resources and know-how that is particularly difficult to identify and duplicate for a competitor. However, as part of this study, we will focus on managerial innovation.

Introduced by researchers such as Mintzberg (1973) and Kimberly (1981), who have established the distinction between managerial innovations and other types of innovation, in this case, technological innovation, managerial innovation stands out from others by its propensity to influence the traditional decision-making process of the company. It is considered an organizational means or strategy for managing uncertainty. Thus, for Kimberly, a managerial innovation is defined as "any program, product or technique that represents a significant distance from the state of management when it first appears and where it affects nature, location, quality or the amount of information that is available in a decision-making process" (Kimberly, 1981: 86).

For Damanpour (1984), managerial innovation is distinguished from administrative innovation, which is an innovation that influences the social system of an organization, especially the relationships between individuals who interact with one another to accomplish a task or achieve a specific objective. Van de Ven (1986: 591) argues that "managerial innovation is a new idea that can be either a combination of old ideas, a schema that changes the order of the present, a formula or a unique approach perceived as new by the individuals concerned ".

For Hamel (2009), managerial innovation is the foundation for creating unique skills for the company. According to the latter, it is the ability to develop managerial innovations that depend on the performance of companies. However, it should be noted that, analysis of the literature on innovation reveals that managerial innovation has several acceptances that are used interchangeably. It is in this sense that Kimberly (1981) argues that managerial innovation is still called organizational innovation. Williamson (1975), Edquist, Hommen and McKelvey (2002) and Sanidas (2005) have used the term administrative innovation. Nevertheless, all the terms used reveal a common sense (Rowley et al., 2011).


Management practices: For Vaccaro et al. (2012), management practices are changes made by managers in what they do as part of their work within the organization, including the introduction of new rules and associated procedures. This can also result from assigning work to someone (i.e. the task) and having to do some work (e.g. function). Birkinshaw et al. (2008), Mol and Birkinshaw (2009) explain that management practices refer to what day-to-day managers do in their work (defining objectives and associated procedures, organizing tasks and functions, talent development and satisfaction of different stakeholder requirements). Phillips (2013) defines a managerial practice as a bundle of behavioral routines, tools and concepts to accomplish a certain task. Organizations differ greatly in their eagerness to adopt innovation practices. Also, new practices may lack political, technical or cultural forms making adoption unlikely without adaptation of practice. The adoption of new innovation practices may therefore
require careful analysis of the adjustment of new practices and an inappropriate management strategy to ensure broad and high adoption of fidelity those results in maximum benefits. Finally, innovation occurs when individual practices and organizational strategies are integrated into the social structure to support that innovation (Dodgson et al., 2013).

Management processes: According to Hamel (2006) and Birkinshaw et al. (2008), management processes refer to the routines that govern the work of leaders, drawing on abstract ideas and turning them into achievable tools, which typically include strategic planning, project management and, among other things, performance evaluation. But Vaccaro et al. (2012) focused on how the work is done and include the changes in the routines that govern people's work and the way compensation is set up.

The organizational structure: This is the way companies organize the communication system within them, aligning and leveraging the efforts of their members that feed into the context in which the work is done. These elements are linked to changes in the communication structure as a sign of different ways of doing things, for example, by allowing different groups to exchange information (Vaccaro et al., 2012). Also, the formal structure of the organization could be modified to bring about changes in communication, autonomy and discretion (Hamel, 2006, Birkinshaw et al., 2008).

Managerial innovation, therefore, includes the three facets, the practices that concern what leaders and managers do, the processes that explain how they do it, and the structures that show the organizational context in which the work is done (Hecker and Ganter, 2013). Thus, to implement managerial innovation, it is necessary to introduce a change that reflects a novelty in the way the organization is managed through new practices, processes or structures, including associated techniques (Khanagha et al., 2013). For Hamel (2006), managerial innovation is an innovation that derogates from traditional management principles, processes and practices that change the way work is done. Managerial innovation, therefore, consists of a set of rules and work routines that are done within organizations (Birkinshaw et al., 2008; Damanpour and Aravind, 2011).

For Le Roy et al. (2013), managerial innovation is the adoption, by an organization, of new management practices or methods for it, to improve its overall performance. This definition encompasses two meanings of the concept: "(1) managerial innovation is the invention and adoption by an organization of a completely new management practice or method about known management practices and methods; the organization develops an innovation and implements it first; the success of this organization, because of this managerial innovation, leads other organizations to adopt it; (2) managerial innovation is the adoption by an organization of a management practice or method that already exists but is new in relation to its current management practices and methods; the organization does not develop innovation and is not necessarily the first to adopt it; it is the success of the organizations that have adopted this managerial innovation that has led it to adopt it as well" (Roy et al., 2013, p.85). In this study, we will retain these two definitions of managerial innovation. This choice is justified by the fact that they seem to be more appropriate, because the managerial innovation, beyond being an invention of a new practice or method of management by an organization, is also the adoption of a practice or management method already existing but new for the organization adopting it.

b) Performance conceptualization

Business performance is a central concept in management science that many researchers have sought to define for more than four decades (Couret, 2011; Marmuse, 1997; Bouquin, 1993; Lawrence and Lorsch, 1973). The term performance is widely used, although its definition is not unanimous (Bourguignon, 1995). According to Marmuse (1997), the performance of an organization is the way it is organized to achieve its objectives. For Lawrence and Lorsch (1973), the performance of the organization translates its capacity to satisfy the requirements of the environment which includes actors who realize market relations with the organization (the providers of resources necessary for its activities and the clients) but also the community in its broad sense which is located outside the market. For Bouquin (1993), performance does not exist intrinsically, but in relation to users.

Historically, corporate performance has been measured by financial indicators (Neely, 1999; Walker and Brown, 2004), which are considered objective and reliable and easily interpreted for evaluation or benchmarking purposes. However, since the mid-1980s, many critics have been raised about financial measures as performance indicators, notably due to: their short-term orientation, their lack of link with the strategy (Neely, 1999), their inability to consider the interest of the various stakeholders and their tendency to want to "normalize" behaviors, which is far from accounting for the reality and heterogeneity of SMEs (St-Pierre and Cadieux, 2011).

Several types of performance modeling are widely used in management science literature. The models most cited by this literature are those of Quinn and Rohrbaugh (1983), of Morin et al. (1994) and de Bourguignon (1996). Each of these models takes a different look at performance but is unanimous on the multidimensional aspect of this concept. By referring to the theory of Stakeholders or Stakeholders (Freeman, 1984), it is, in fact, possible to interpret the performance according to the challenges of the different actors who make up the organization or who hold an interest in it.
For some, the financial or accounting dimension will be predominant while for others, the consumer-product, socio-political or even employment dimension will be significant (Le Louarn and Wils, 2001). In this perspective, Dyer and Reeves (1995) proposed different types of performance level indicators, the most used of which are four: 1) the results of human resources such as absenteeism, turnover, satisfaction at work and the performance of the individual and the group; 2) organizational results such as productivity and quality of products and services; 3) financial results such as return on assets (ROA) and returns on investment (ROI); 4) market efficiency (Tobin's Q or Q which is the ratio of a firm's market value to the cost of replacing its assets).

Other authors, such as Kalika (1988), Bayad and Liouville (1998), have distinguished three dimensions for measuring the performance of organizations. First, the social dimension of performance, which is broken down into four indicators: work performance, working time, staff capacity to perform tasks and absenteeism. Second, the organizational dimension of performance which is made up of three indices: productivity, innovation and quality. Third, the economic dimension of performance, which is measured using four items: profitability, sales growth, market share and customer loyalty.

Ultimately and as Louart (1996) pointed out, in its plurality of meanings, performance is based on multiple benchmarks: economic (profitability, competitiveness), legal (legal compliance, solvency), organizational (skills, consistency and efficiency) or social (involvement, satisfaction, quality of life at work). In the context of this study, we consider performance in a global manner, which is to say through its three essential dimensions, namely: the economic dimension, the social dimension and the organizational dimension. The advantage of these three indicators is that they are easily observable. Also, as we work in SMEs, it seems more realistic to combine them.

Once the concept of performance has been identified, we will now dwell on the theoretical link that may exist between this concept and managerial innovation.

c) The theoretical link between managerial innovation and performance

Used for the first time by Kimberly in 1981, the term 'managerial innovation' is motivated by a desire to recognize innovations that have been neglected so far and are not technological (Le Roy et al., 2013). Indeed, public authorities, companies, managers and researchers have always focused most of their attention on technological innovation. They have shown little interest in other forms of innovation, such as managerial innovation (Le Roy et al., 2013). In fact, managerial innovation, its context and innovation process, its innovator and its effect on the performance of companies in general, and SMEs in particular, are very unpopular. Yet, according to Le Roy et al. (2013), managerial innovation is the main factor that explains the company's performance.

For Van Auken et al. (2008), managerial innovation can lead to increased market share, greater efficiency of production, higher productivity growth, and increased bottom line. Managerial innovation thus enables SMEs to adopt new practices in order to differentiate themselves from their competitors and improve their financial performance (Zahra et al., 2000). Indeed, according to the latter, managerial innovation enables SMEs to obtain higher financial performance by offering a greater variety of products (precious, rare, inimitable and differentiated). For Keizer et al. (2002), managerial innovation is one of the most important ways in which SMEs can compete and perform well. In the same vein, Barney (1997) pointed out that SMEs can gain a sustainable competitive advantage through their managerial innovation.

According to Zhu, Zou and Zhang (2018), the implementation of CSR practices is a form of managerial innovation for SMEs that helps improve their performance. In the same vein, Arnold (2017) emphasizes that SMEs that place greater emphasis on managerial innovation, such as CSR, have a great capacity to improve their performance. Bocquet et al. (2017) also argue that managerial innovations such as CSR may be necessary for SMEs with strategic objectives to improve their performance, such as growth. Thus, managerial innovation is a key lever for Cameroonian SMEs to improve their performance through CSR practices. For Mattera and Baena (2015), managerial innovation can interact with CSR practices that improve performance. Adam, Strahle and Freise (2017) also confirm that managerial innovations, such as the implementation of a management system, interact with CSR practices in order to improve the performance of SMEs.

Managerial innovation based on market orientation and organizational learning, therefore, has a significant impact on the company's performance (Besbes, Aliouat and Gharbi, 2013). According to the latter, the market orientation is an information resource and learning, an organizational resource, and both, as dynamic capacities crucial for the development of the company's competitiveness, have a significant impact on the competitive advantage and SME performance. The authors thus combine the resource-based strategic approach of the firm that the true source of competitive advantage and higher performance lies in the specific resources of the firm and not in the unique positioning of the firm at the market level (Barney, 2001); and the capacity-based approach of Helfat and Peteraf (2003) for whom an organization's ability to perform a set of tasks in a coordinated manner using organizational
resources achieves a particular goal, including performance.

According to Birkinshaw et al. (2008), managerial innovation that is seen as the creation and application of a renewed management practice, process or technique achieves organizational goals such as performance. In the same vein, Mol and Birkinshaw (2009) note that managerial innovations, which are typically incremental and include new approaches to structuring the firm, new management techniques, and new marketing methods, have only one ultimate goal, which is that of improving the company's performance. However, Walker et al. (2010) find that the relationship between managerial innovation and performance is subject to the organization's ability to put in place management systems, effectively manage organizational processes, and implement its mission and strategies. Such a relationship first requires a competitive advantage by referring to Hunt's "resource-benefit" theory (1999), which conceptualizes the relationship between resources, competitive advantage and superior performance.

For some authors (Adams, John and Phelps 2006; Birkinshaw et al., 2008), managerial innovation, about product/service innovations, is generally intended to increase the efficiency and effectiveness of internal business and administrative processes of the organization. It can include changes in structure, management systems, knowledge used to perform management work and management skills that enable an organization to function effectively and efficiently (Hamel, 2006). Thus, managerial innovation translates the adoption of new management systems and processes to make management work more efficient, but also the use of new management and information systems to improve the efficiency of systems and processes. The organization's operating performance increases the company's performance (Damanpour, Walker and Avellaneda, 2009). The combined effect of introducing new practices, processes and techniques to improve the organizational adaptation and effectiveness that management innovation conveys enables the company's performance to be achieved. This view is championed by proponents of theories of contingency and resource dependence that organizations are adaptive systems that introduce changes to function effectively and improve their performance (Lawrence and Lorsch, 1967; Pfeffer and Salancik, 2003).

Managerial innovation plays a central role in the process of organizational change, facilitating the adaptation of organizations to the external environment and increasing the efficiency and effectiveness of internal processes (Walker et al., 2010). Boyne and Walker (2002) indicate that managerial innovation, such as total quality management, has positive consequences for performance. Ndalira, Ngugi and Chepkulei (2013), in their studies in Kenya, report empirical evidence that managerial innovation has a strong link to sales performance. Indeed, for these authors, the tendency of owners to engage in new ideas, new practices, creative processes, results in new products, services or technological processes that have a great influence on the performance of SMEs. However, proponents of the institutional theory suggest that managerial innovation can have indirect effects on performance because the factors driving adoption are initially focused on ensuring internal and external legitimacy (Staw and Epstein, 2000). Nevertheless, like the majority of previous work, we consider that managerial innovation, which induces changes in the management processes of SMEs, positively and significantly influences their performance.

III. METHODOLOGY OF THE STUDY

To provide some answers to the problem stated in this research, this study combines the theory of resources and capabilities, thus bringing them closer to the performance of SMEs. The methodological elements presented in this work concern the measurement of variables, the characteristics of the sample and the collection of data as well as the statistical tools used.

a) Measuring variables

To measure managerial innovation, we adapted the measurement scales resulting from the work of Birkinshaw et al. (2008) and Le Roy et al. (2013), namely: (1) Implementation of a new structure to manage technological innovations and facilitate process and product innovations; (2) Establishment of a new organizational structure to manage multiple products and markets; (3) Implementation of a new production management method that improves efficiency and reduces lead times; (4) The practice of a new method to reduce quality defects and increase customer satisfaction; (5) The adoption of new costing techniques that are more realistic; (6) The adoption of a new method to integrate information of a different nature necessary for the decision; (7) Implementation of a new structure allowing the launch of complex and innovative products; (8) Establishment of a new structure allowing problem solving by employees; (9) Establishment of a new structure to facilitate coordination between the different functions and the project type organization. These items are measured by the 5-point Likert scale, ranging from "1 = strongly disagree" to "5 = strongly agree".

Regarding the measurement of overall performance, we have selected three dimensions (each of which includes two indicators) to understand this concept, namely: the economic dimension (asset profitability and financial profitability); the social
dimension (social climate and quality of life at work) and finally the organizational dimension (cost control and stakeholder satisfaction (customers, suppliers, employees, investors, etc.)) over of three years. Financial indicators are measured using a three-point Likert type scale: "1 = decline; 2 = stable; 3 = rise. The social climate was also measured using a three-point scale: "1 = bad; 2 = good; 3 = very good.

Also, we took into account in our analyses several control variables suggested by Kim, Cable and Kim (2005). These are the size of the business, its age, industry and type of respondents. Indeed, these authors suggest that the control variables retained must make sense conceptually. As a result, the literature analysis led us to include four control variables in the model to be tested.

The company’s performance has indeed been correlated with gender (Bauweraerts et al., 2017; Dang et al., 2017 and Garnero, 2017), with men-led SMEs generally performing better than women-led ones. The size of the enterprise has also been measured because it is likely to influence performance, as the larger the enterprise, the more its structure offers standardized procedures and differentiated work methods, and more it is likely to perform well (Mlouka and Sahut, 2008, St-Pierre, Julien, and Morin, 2010). The relationship between age and the performance of business would be positive (St-Pierre, Julien and Morin, 2010). With age, the increase in experience is concomitant with that of the competitive advantage, which increases the profitability of the company. We controlled the business sector, whether industrial, commercial or service. This distinction appeared necessary because Moati (2000) and Issor (2017) point out the diversity of performance from the sector of activity. Indeed, SMEs are not a homogeneous category, but a convenient name which designates a diverse reality likely to be differentiated by the sector of activity, by the technological degree of their productive system, but also their appreciation of the performance indicators.

b) Characteristics of the sample and collection of data

Initially, our investigation consisted of 180 companies from the reference population (identified in a file of 203,482 companies, including 6,055 companies in Ngaoundéré, 6,789 companies in Garoua, 6,870 companies in Maroua, 49,970 companies in Yaoundé and 70,082 companies in Douala) (RGE, 2016). A non-probabilistic sample, more precisely by reasoned choice, given the growing insecurity in certain regions of the country, particularly the Far North, North West, West, and South West where the phenomena of Boko Haram and separatists (or secessionists) have made life impracticable and the environment inaccessible in these localities of the country. Moreover, according to RGE (2016), the five cities account for nearly 75% of the country’s enterprises, where Douala and Yaoundé remain the main economic centers of the economic units, with respectively 37% and 27%. Also, these five cities are representative of the different layers of the population of the national triangle, where the cities of Ngaoundere, Garoua and Maroua represent the far north; Yaunde, the great south and Douala, the great west.

However, after eliminating the non-workable questionnaires and non-responses, we finally obtained a sample of 163 companies. That is a response rate of almost 91%. For the most part, we administered the face-to-face questionnaire to managers of SMEs, because we also wanted to have interviews with them. However, we did not receive a favorable welcome from all doors. The usable questionnaires collected in the five Cameroonian cities are presented in Table 1 below.

<table>
<thead>
<tr>
<th>Cities</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ngaoundere</td>
<td>26</td>
<td>15.95</td>
<td>15.95</td>
</tr>
<tr>
<td>Yaounde</td>
<td>33</td>
<td>20.25</td>
<td>36.20</td>
</tr>
<tr>
<td>Douala</td>
<td>47</td>
<td>28.83</td>
<td>65.03</td>
</tr>
<tr>
<td>Garoua</td>
<td>37</td>
<td>22.70</td>
<td>87.73</td>
</tr>
<tr>
<td>Maroua</td>
<td>20</td>
<td>12.27</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>163</strong></td>
<td><strong>100.0</strong></td>
<td></td>
</tr>
</tbody>
</table>

Beyond the geographical aspect, our sample is characterized by other elements, as shown in Table 2 below.

<table>
<thead>
<tr>
<th>Characteristics studied</th>
<th>Response modalities</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age range of the leader</td>
<td>Under 35</td>
<td>71</td>
<td>43.6</td>
</tr>
<tr>
<td></td>
<td>35 years and over</td>
<td>92</td>
<td>56.4</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>163</strong></td>
<td><strong>100.0</strong></td>
</tr>
<tr>
<td>Level of studies</td>
<td>Primary</td>
<td>32</td>
<td>19.6</td>
</tr>
</tbody>
</table>
It emerges from this table 2 that two age groups are displayed among the leaders of our sample. That of managers aged 35 and over being the majority (56.4%) compared to those under 35 years of age. Also, many of the leaders in our sample have a secondary level of education (41.7%). Those with a university-level represent 38.7% of the companies in our sample. Only 19.6% of leaders have a primary level of education. However, one should be cautious in interpreting these results because there is a risk of bias due to inaccurate responses provided by respondents. Indeed, it is difficult for a leader to accept that he has a degree less than the Baccalaureate. This is what would justify the low rate of leaders with a level of primary education. However, this result shows that the entrepreneurial landscape of SMEs in Cameroon is heterogeneous according to the level of study, and dominated by individuals with secondary education. In addition, the companies in our sample belong to three sectors of activity, namely: the industrial sector which constitutes the majority of the companies in the sample (38.6%), the commercial sector (31.9%) and the services that come as a last resort (29.4%).

In the framework of this study, we have judged econometric modeling via the linear regression technique. This choice is justified by the fact that our dependent and independent variables are variables with the same measurement levels (metric/metric). The principle consists in integrating into the same regression the independent variables (CMP and COS) and the control variables (size and sector of activity).

As a reminder, the modeling makes it possible to highlight the existence of an association (between the explanatory variables and the explained variable) by a robustness test and measurement procedure. The most commonly used association measure is the Pearson correlation coefficient. The objective pursued by regression analysis is to determine the value of the parameters \( \beta_i \), making it possible to identify the link between the dependent variable and the independent variable. The linear regression method is based on the following statistical indicators:

The **correlation coefficient** (R), which indicates the intensity of the relationship between the variables studied and its value is between -1 and 1 (this value is good when it tends to 1 in absolute value);

The **coefficient of determination**, R² which is the usual indicator of the overall quality of fit. It measures the percentage of the variance of the variable to be explained returned by the model; its value is between 0 and 1 (this coefficient is interesting when it is close to 1);

The **t of Student**, which measures the significance of the regression coefficients of the model, is significant when its value is greater than two;

The Fisher-Snedecor (or F Fisher) test that measures the robustness of the model at the 0.000 level of significance.

The equation of the estimate of our regression model can be as follows:

\[
OPC = \alpha + \beta_1\text{CMP} + \beta_2\text{COS} + \beta_3\text{AGE} + \beta_4\text{SIZE} + \beta_5\text{SEX} + \varepsilon
\]

**OPC**: the Overall Performance of the Company;
**CMP**: the explanatory variable "Change in Management Practices";
**COS**: the explanatory variable "Change in the Organizational Structure;"
AGE: a control variable expressing the age of the enterprise;
SIZ: a control variable, measured by the size of the firm;
SEC: a control variable, measuring the business sector of the enterprise;
SEX: a control variable expressing the sex of the respondent;
β_1 to 6: the coefficients of the variables involved;
ε: the error term of the model;
α: the constant.

IV. RESULTS OF THE STUDY

Here, we are talking about presenting our main results, namely: verifying the validity of measurement scales, matrix of correlation of variables and regression analyzes.

a) Verifying the validity of measurement scales

<table>
<thead>
<tr>
<th>Items</th>
<th>Components F1</th>
<th>Components F2</th>
<th>Commonality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implementation of a new production management method that improves efficiency and reduces delays (V1)</td>
<td>0.982</td>
<td>0.966</td>
<td></td>
</tr>
<tr>
<td>The practice of a new method to reduce quality defects and increase customer satisfaction (V2)</td>
<td>0.980</td>
<td>0.963</td>
<td></td>
</tr>
<tr>
<td>The adoption of new costing techniques more realistic (V3)</td>
<td>0.977</td>
<td>0.855</td>
<td></td>
</tr>
<tr>
<td>The adoption of a new method to integrate information of a different nature necessary for the decision (V4)</td>
<td>0.959</td>
<td>0.843</td>
<td></td>
</tr>
<tr>
<td>Implementation of a new structure to manage technological innovations and facilitate process and product innovations (V5)</td>
<td>0.939</td>
<td>0.838</td>
<td></td>
</tr>
<tr>
<td>Establishment of a new structure to facilitate coordination between the different functions and the project type organization (V6)</td>
<td>0.925</td>
<td>0.833</td>
<td></td>
</tr>
<tr>
<td>Establishment of a new organizational structure to manage multiple products and markets (V7)</td>
<td>0.913</td>
<td>0.825</td>
<td></td>
</tr>
<tr>
<td>Implementation of a new structure allowing the launch of complex and innovative products (V8)</td>
<td>0.907</td>
<td>0.815</td>
<td></td>
</tr>
<tr>
<td>Establishment of a new structure allowing problem solving by employees (V9)</td>
<td>0.812</td>
<td>0.759</td>
<td></td>
</tr>
<tr>
<td>Own values</td>
<td>3.809</td>
<td>2.386</td>
<td>-</td>
</tr>
<tr>
<td>% variance explained</td>
<td>51.414</td>
<td>30.551</td>
<td>-</td>
</tr>
<tr>
<td>% cumulated explained variance</td>
<td>51.414</td>
<td>81.965</td>
<td>-</td>
</tr>
<tr>
<td>Cronbach alpha coefficient</td>
<td>0.809</td>
<td>0.794</td>
<td>-</td>
</tr>
</tbody>
</table>

Managerial innovation is apprehended using a battery of nine items. The KMO has a value of 0.794 (> 0.5) and can be considered satisfactory. Similarly, the Bartlett sphericity test result of 639,438 at the 0.000 significance level indicates that the correlation matrix is not unitary. Given these two elements, the CPA is relevant to our data. The results in Table 3 reveal two factors, each of which has an own value greater than 1. And both factors return the information to 81.965% of the total variance. On the other hand, the internal coherences of these two factors are satisfactory about their Cronbach alpha coefficient. It thus emerges that the concept of managerial innovation is two-dimensional since it has two relevant dimensions. The first is represented by the first factorial axis (F1), which is strongly correlated with variables V1 to V4. The second, represented by the second factorial axis (F2), is strongly correlated with variables V5 to V9.

It can be inferred that the first factorial axis represents the "change in management practices" that we call CMP. In contrast, the second factorial axis represents the "change in organizational structure" that we call COS.

Table 4: Result of factor analysis on the overall performance concept

<table>
<thead>
<tr>
<th>Items</th>
<th>F1</th>
<th>Commonality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost control</td>
<td>0.964</td>
<td>0.928</td>
</tr>
<tr>
<td>Quality of life at work</td>
<td>0.958</td>
<td>0.918</td>
</tr>
<tr>
<td>The profitability of the assets</td>
<td>0.943</td>
<td>0.909</td>
</tr>
</tbody>
</table>
After analyzing the Pearson correlations between the items constituting the overall performance, it emerges that these (items) are not orthogonal since there are significant correlations between them. This led to an ACP to identify the relevant but hidden dimensions of the concept. The results of the analysis, contained in Table 4 above, are satisfactory. Indeed, the KMO index and the Bartlett sphericity test give a value of 0.864 and 1284.631, respectively, at the significance level of 0.000. This shows that the structure of the correlation matrices for the data of the study sample lends itself well to the PCA. This analysis retains, according to Kaiser's principle, a single factor. All variables have a commonality greater than 0.5. The value of Cronbach's alpha for this factor is satisfactory since it is greater than 0.65, which is the minimum threshold, which reflects acceptable reliability of the scale used for measuring overall performance.

### b) Matrix of correlation of variables

Multivariate analysis through the study of correlations indicates that there is no problem of multicollinearity between the independent variables of the model since the correlation coefficients between the explanatory variables are all less than 0.7. Indeed, the presence of the multicollinearity problem is a sign of redundancy of information in the model and deteriorates its quality. Reading Table 5 leads to the observation that all the partial correlation coefficients are low (all between 0.1 and 0.7) and significant (at the 5% threshold). According to Anderson et al. (2015), there is a presumption of multicollinearity when a correlation coefficient between two independent variables is greater than 0.70 (or lower -0.70). Overall, the different explanatory variables are positively correlated with each other and below 0.70 (Table 5). These weak correlations significant at the 5% threshold illustrate a prediction made on the measures of managerial innovation. Similarly, while admitting that the sex of the leader can be a confounding factor, the analysis following the gender aspect shows that the different dimensions of managerial innovation are positively correlated regardless of age, size, sector of activity and sex and with a value less than 0.7. These weak correlations at the 5% threshold suggest that there is no great disparity between the managerial innovation of small and medium-sized enterprises, industrial sectors, trade and service, elderly or otherwise, led by a man or woman.

### Table 5: Correlations between the different explanatory models

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. CMP</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. COS</td>
<td>0.140</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. AGE</td>
<td>-0.044</td>
<td>-0.041</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. SIIZ</td>
<td>-0.014</td>
<td>-0.031</td>
<td>-0.021</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. SEC</td>
<td>-0.022</td>
<td>-0.021</td>
<td>0.043</td>
<td>0.651</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>6. SEX</td>
<td>-0.041</td>
<td>-0.021</td>
<td>0.022</td>
<td>0.691</td>
<td>0.132</td>
<td>1.000</td>
</tr>
</tbody>
</table>

### c) Regression analyzes

The analysis of the results (carried out under EVIEW 9) of Table 6 below shows that the coefficient signs of the GPC and CSO variables are positive. The same is true of the student's t exam, which reveals the significance at the 1% level of these two variables. In addition, the overall quality of the estimate is satisfactory. In fact, the results show a Fisher statistic with a value of 76.186 and the associated probability is 0.000 (strictly less than the 5% significance level). We reject the null hypothesis in favor of the alternative hypothesis. Thus, the model is globally significant and of good quality. In fact, as the adjusted $R^2$ value is equal to 0.7997, this means that 79.97% of the overall performance of SMEs is explained by managerial innovation. Also, since adjusted $R^2$ is less than DW ($0.7997 > 2.545$), according to Granger in 1983 and Engel in 1987, we can safely say that our regression model is correct.

For control variables, the results show a positive and significant effect at the 5% threshold of all control variables on the overall performance index, except the
EGM. It can thus be noted that the age of the company has no significant influence on the overall performance of the company, even though the experience conditions are satisfied by this variable. The company's performance does not increase with age. However, "gender", "size" and "the business sector" significantly influence the overall performance of SMEs. Thus, men-led SMEs seem to perform better than women-led ones, and overall performance increases with "size" and depends on the sector of activity (that is, industrial SMEs are more likely to performers than SMEs in other sectors).

The econometric equation of the estimated final model can therefore be written as follows:

$$\text{OPC} = 0.587719 + 0.831641*\text{CMP} + 0.846104*\text{COS} + 0.364935*\text{AGE} + 0.628661*\text{SEC} + 0.034624*\text{SEX} + \varepsilon$$

Table 6: Results of the regression analyzes

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.587719</td>
<td>0.046307</td>
<td>12.69193</td>
<td>0.2684</td>
</tr>
<tr>
<td>CMP</td>
<td>0.831641</td>
<td>0.055083</td>
<td>15.09809</td>
<td>0.0000</td>
</tr>
<tr>
<td>COS</td>
<td>0.846104</td>
<td>0.052314</td>
<td>16.17372</td>
<td>0.0000</td>
</tr>
<tr>
<td>AGE</td>
<td>-0.035225</td>
<td>0.040352</td>
<td>-0.872926</td>
<td>0.3847</td>
</tr>
<tr>
<td>SIZ</td>
<td>0.364935</td>
<td>0.089104</td>
<td>4.095612</td>
<td>0.0001</td>
</tr>
<tr>
<td>SEC</td>
<td>0.628661</td>
<td>0.070699</td>
<td>8.892119</td>
<td>0.0000</td>
</tr>
<tr>
<td>SEX</td>
<td>0.034624</td>
<td>0.041047</td>
<td>0.843516</td>
<td>0.0408</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.810323</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.799687</td>
<td>S.D. dependent var</td>
<td>0.494418</td>
<td></td>
</tr>
<tr>
<td>S.E. of regression</td>
<td>0.221284</td>
<td>Akaike info criterion</td>
<td>-0.119307</td>
<td></td>
</tr>
<tr>
<td>Sum squared resid</td>
<td>5.239404</td>
<td>Schwarz criterion</td>
<td>0.048705</td>
<td></td>
</tr>
<tr>
<td>Log likelihood</td>
<td>13.80048</td>
<td>Hannan-Quinn criter.</td>
<td>-0.051120</td>
<td></td>
</tr>
<tr>
<td>F-statistic</td>
<td>76.18629</td>
<td>Durbin-Watson stat</td>
<td>2.545456</td>
<td></td>
</tr>
<tr>
<td>Prob (F-statistic)</td>
<td>0.00000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

V. Discussion

The results obtained allow us to make several observations, including their scope and limits to guide future research. The results of the regression analyzed show that managerial innovation is positively associated with the overall performance of SMEs. These results are similar to those obtained by a number of authors, notably those of Van Auken et al. (2008), Birkinshaw et al. (2008), Damanpour et al. (2009), Walker, Damanpour and Devece (2010), Alzuod and Kharabsheh (2015), Maalej and Amami (2016), in their study aimed at understanding the influence of managerial innovation on business performance. Thus, the adoption of new innovative management practices and the change in the organizational structure within SMEs improve their overall performance. This confirms once again the role played by innovation in value creation and improving business performance. As a result, Cameroonian SMEs can improve their overall performance through the implementation of new management practices, methods or techniques, new ideas and organizational structure.

However, unlike previous work that looked at performance from a financial or organizational point of view, in the context of this study, we appreciated it from a global perspective. The differences observed in the regression coefficients compared to previous work can be attributed to the performance indicators used, but also to the effect of the sample size.

This study also found two dimensions of managerial innovation (management practices and organizational structures) having a positive and significant influence on the performance of companies, contrary to previous work that found three (management practices, management processes and organizational structures) (Alzuod and Kharabsheh, 2015). This difference can be explained by the nature, quality and number of items used to apprehend managerial innovation. Indeed, Alzuod and Kharabsheh (2015) used fifteen items to measure this concept, unlike us who only used nine.
VI. Conclusion

At the end of this study, which aimed to analyze the influence of managerial innovation on the performance of SMEs in Cameroon, we are convinced that managerial innovation, as most of the literature presents, is a lever of performance in that, it allows the implementation of new management practices which, until now are little or not explored by the company and which allow to increase the market share, the effectiveness of the production, net results and, in turn, improve the overall performance of the company.

Empirical analyzes have shown that, in the Cameroonian context, managerial innovation is two-dimensional (innovation in management practices and innovation in the organizational structure) and the combination of these different dimensions has a positive and significant effect on the performance of SMEs in these regions of Cameroon. This ability of SMEs to develop a managerial innovation is therefore an internal force that produces change in the company, facilitating the adaptation of the company to the external environment and increasing the efficiency and effectiveness of internal processes. This is reflected in the implementation of new products, services or technological processes that have a great influence on the performance of SMEs.

On the theoretical level, the direct links between managerial innovation and overall performance are rare in the literature, therefore this research fills this gap by bringing additional results: previous studies having apprehended the organizational or financial performance of companies, we have broadened our vision in this field to the notion of overall performance, taking into account both the economic dimension (profitability of assets and financial profitability); the social dimension (the social climate and the quality of life at work) and finally the organizational dimension (cost control and stakeholder satisfaction (customers, suppliers, employees, investors, etc.). Also, if managerial innovation was considered until then as a vague and abstract concept, because it was not sufficiently operationalized to capture its various components, the present study makes it possible to overcome this limit, distinguishing the two essential dimensions of managerial innovation, given the scarcity of empirical work that has operationalized this concept.

In addition, this study supports theories of contingency and resource dependence, according to which organizations are adaptive systems that introduce changes to function effectively and improve their performance. Indeed, our contribution lies in the fact that the study explains by the managerial action of the valuation of so-called strategic assets that allow creating value of the firm. Indeed, according to resource dependency theory, the enterprise must focus on a minority of the resources that have the characteristic of being of value, rare, difficult to imitate and substitute, and thus ignores other resources that do not fulfill any of these conditions. However, in this study, we have apprehended managerial innovation as a strategic resource enabling the company to perform well.

On the managerial level, our results showed the importance of SMEs to develop managerial innovation to guarantee their performance. To remain efficient, SMEs must implement innovation their management practices and their organizational structure. This study will thus enable SME managers to optimize the chances of their companies’ sustainability because managerial innovation is for them a source of creativity enabling them to: differentiate themselves from their competitors by inventing new offers that "surprise and delight" More and more demanding and volatile customers; to be agile in order to adapt to permanent changes in their environment; to acquire the flexibility and responsiveness necessary to face future challenges; Attract and retain committed employees who are passionate and eager to contribute to the success of their business. Moreover, this study will allow SME managers to no longer be limited to the technological aspect of innovation (products, processes) whose lifespan is constantly shortened by the evolution of science and technology, but also to grasp the managerial aspect that allows them to develop a horizontal or network organizational structure and no longer on vertical and pyramidal structures; to increase their capacity for innovation and promote happiness at work.

While this study has contributed to an understanding of the influence of managerial innovation on the overall performance of SMEs, it has some limitations. The first limit is to have wanted an essentially explanatory study. It offers few tools within reach of managers to make strategic decisions. Indeed, our choice to carry out, exclusively, a quantitative study based on the administration of the questionnaire, do not allow us to have more details and understanding of the studied phenomenon, compared to a qualitative study based on semi-annual interviews directive (Gavard-Perret et al., 2012). The second limitation of this search is the sample size that can be considered low. Indeed, although the sample in this study is statically acceptable (> 30), it is nevertheless limited. This could affect the accuracy of the results and leave some doubts about the generalization of the study to all Cameroonian SMEs.

Also, much remains to be done to improve our knowledge of the links between managerial innovation and the overall performance of SMEs in Cameroon. Intuitively, one can imagine that cultural specificity plays, despite everything, an important role in understanding the performance of SMEs. It would be interesting to take this factor into account to improve the quality of our
results. A qualitative exploratory study with companies from different countries could also identify best practices for managerial innovation that can create value. Similarly, it would be particularly stimulating to question the existence of a business climate that could, more or less strongly boost the managerial innovation within SMEs.

**References**


