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The Development Of Steering Indicators In Public Entreprises In Cameroon: An Implementation Based On Contengency Factors

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Abstract
Based on the results from an empirical research, this article aims to determine on the one hand the nature of the indicators developed in dashboards of public enterprises and to verify on the other hand the link between certain contingency factors and the steering indicators developed in the dashboards of 32 Cameroonian public enterprises. The results of this research show firstly that the dashboards of public enterprises are moderately "balanced" and the commonly used indicators are financial in nature. Secondly, it is noted that only contingency factors such as size, business sector and public participation have a positive and significant link with the balance of the scoreboards of Cameroonian public enterprises.

Keywords: balanced dashboards - public enterprises - contingency factors

Résume
A partir des résultats d'une recherche empirique, cet article vise à déterminer d'une part la nature des indicateurs développés dans les tableaux de bord des entreprises publiques et de vérifier d'autre part le lien existant entre certains facteurs de contingences et les indicateurs de pilotage développées dans les tableaux de bord de 32 entreprises publiques camerounaises. Les résultats de cette recherche montrent premièrement que les tableaux de bord des entreprises publiques sont moyennement « équilibrés » et les indicateurs les plus utilisés sont de nature financiers. Dans un second temps, on constate que seules, les facteurs de contingences tels que la taille, le secteur d'activité et la participation publiques ont un lien positif et significatif avec l'équilibrage des tableaux de bord des entreprises publiques camerounaises.

Mots-clés : tableaux de bord équilibrés- entreprises publiques- facteurs de contingences

1. INTRODUCTION

In a context of intense competition, where performance management has become the focal point of the management control process (Kaplan and Norton, 1988), a range of tools has been developed by several authors to provide assistance to decision-makers within companies. These new performance measurement devices are supposed to meet the demands of today's world. They include Total Quality Management, the ABC/ABM method, the balanced dashboard (Saouf et al., 2017) and many others. Among these performance measurement tools, Kaplan and Norton's dashboard appears to be the most adequate, the most balanced possible and the most valued internationally (Bourguignon et al., 2002). It is moreover of the major innovations that have emerged in management control in recent years (Khelil M and Baaziz A; 2006). Unlike conventional models, the dashboard developed by Kaplan and Norton is marked by two major phenomena: the integration of non-financial indicators and the strengthening of the links between strategy and daily transactions (Germain, 2004).

Faced with tough competition and a changing environment, Cameroonian public enterprises have a dual task: to make their activities profitable and to provide public services. In this context, in order to carry out these two missions successfully, their managers need beyond control tools, decision-making tools and anticipation tools (Bouquain, 2001). It is from this perspective that the prospective scoreboard deviates from the need for these organisations because it will enable them to obtain synthetic, relevant and useful information capable of guiding strategic, managerial decisions, evaluating public policies and managing state assets with greater transparency (H. Ouma 2016).

Several research studies have shown that the content of dashboards depends on several structural and organizational contingency factors. For example, the Elhamma study (2011) found that the balance of dashboards is positively related to the company's strategy. This author concludes that the dashboard is more balanced and closer to the Balance scorecard when the company pursues a strategy that is geared towards prospecting.

Thus, by referring to contingency theory, our work aims to determine on the one hand the nature of the indicators developed in the dashboards and on the other hand to determine whether there is a link between contingency factors and the steering indicators developed in the dashboards of Cameroonian public companies.

The choice of this theme is motivated by the fact that very few researchers, to our knowledge, have had to study performance measurement practices in the context of public enterprises, especially in the Cameroonian space. Following the example of Mayéglé's work (2008) on the practices of the balanced dashboard in six Cameroonian companies. This study is of interest because it covers both publicly-owned companies and mixed-economy companies. For, whether in private or public organizations, the balanced dashboard can successfully contribute to performance management provided that specific characteristics of each type of business during its implementation (Kapaln and Norton, 2001).

2. LITERATURE REVIEW

It is a question of theoretically addressing the relationships between our different research concepts. We will in turn shed light on the weight of public enterprises in the Cameroonian economy, the place of the balanced dashboard in these enterprises, the value of contingent theory and the factors influencing the evolution of steering indicators.

2.1 The contribution of public enterprises to Cameroon's economy

In Cameroon, the public sector in general and public enterprises in particular are unconditional actors in the reduction of poverty and social disparities because they are seen as the secular arms of public authorities in the implementation of economic and social development programmes. They are present in all business sectors. Whether in energy (AES SONEL), transport (SOTUC), services (CAMTEL), agri-food (SODECOTON, SOCAPALM) and thus contribute to economic progress through these activities of wealth creation, jobs, dividend distributions, taxes the industrialization of the national economy, the creation of social development projects, etc. These companies have become something of an engine of the country's economic growth. According to recent statistics from the IMF and the World Bank, there are approximately 54 merchant companies (28 public companies and 26 semi-public mixed economy companies) and more than 80 public establishments.

In 2017, public-owned companies and companies with majority public participation recorded a turnover of more than 1.587 billion CFA francs compared to 1.340 billion CFA francs in 2016, that is an increase of 18% and during the same period, the added value increased from more than 233 billion CFA francs in 2016 to more than 260 billion CFA francs in 2017, an increase of 11%. While companies with minority public participation experienced a downward trend in their business performance between 2016 and 2017. Their turnover rose from more than 1.449 billion CFA francs in 2016 to almost 856 billion CFA francs in 2017, that is a drop of 40% and during the same period the added value also fell by almost 28% from more than 24 billion CFA francs in 2016, to almost 17 billion CFA francs in 2017.

Regarding the number of jobs created by public sector companies. 13 public companies with more than 1000 employees recorded as of December 31st 2015 more than 49, 2953 employees. This is estimated to account for almost 20% of employment in the public sector. These figures sufficiently demonstrate that public enterprises are an important vector in the labour market and a key player in the implementation of public policies in the economic and social field.

2.2- The place of the balanced scorecard in public enterprises

Since the major concern of companies is on customers, the market undergoes almost permanent changes. End-consumers' care is leads companies to constantly develop strategies that allow them to get closer to their customers' and is attract new ones. This new direction has led to a questioning of management control tools. They are particularly criticized for: the lack of connection with strategy, retrospective tools focused on financial indicators, etc. this is how the balanced scorecard will seek to end this financial predominance and create the link between strategy and daily actions (Kaplan and Norton, 1996).

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The Balanced scorecard is therefore a new management tool that explores a multitude of sources of skills needed to improve the performance of the organization. It is presented as a set of indicators, directly linked to the strategy developed by the company by offering managers the opportunity to manage all the determinants of performance (Khelil and Baaziz, 2006). These are the key success factors and are declined using both financial and non-financial variables that are both oriented to the short- and long-term. Each indicator of the BSC reflects a cause-and-effect relationship and establishes a permanent link between the strategy and the operational actions of the company. No indicator is superior to the other. The all play the same role of improving managerial decisions.

Thus, the model suggested by Kaplan and Norton is formed around four types of measures: financial measures, customer-oriented measures, process-oriented measures and organizational learning oriented measures.

- Financial axis: used to analyze the financial information made available to shareholders. This is the common thread of objectives and indicators of other axes. All the indicators defined on the financial axis directly reflect a causal link with the customer axis (profitable and unprofitable customers, new customers) as well as with the internal process of production of goods and services. This is the innovation introduced by BSC.
- Customer axis: The customer axis seeks to identify pockets of markets where the company can concentrate and obtain sufficient profitability from these activities. This axis highlights both the result indicators that are generally indicators of the traditional system (market share, customer satisfaction) and management indicators that explain other aspects of products, such as the product at the consumers' level.
- Internal process axis: This axis analyzes all the internal processes that contribute to developing a competitive advantage for the company. More specifically, indicators such as: default rate, average response time to request, changes in the cost of a service, of a structure, compliance rate, return on delivery rate, etc. are found.
- Organizational Learning Axis: For Kaplan and Norton, the learning capacity is the focal point of any lasting change. This axis brings together in a way, the means and factors that guarantee the three other axes. Indicators of staff satisfaction, number of training hours, employee productivity, etc. can be found.

2.3- The interest of the contingency theory

Several decades after its first appearance, management control has faced a number of criticisms from organizational science, sociology, and several fields of management science because of its deterministic approach, initially guided towards forecasting, then, to performance evaluation. These challenges have steered management control towards several possible avenues among one of them, the need to take into account the circumstances of each organization during its implementation. It is in this respect that contingent approaches have contributed to better explain the ability of management control to adapt to more uncertain, complex and renewed situations (Pariente, 1998).

For the contingent theory, there is no management control system that is universal or identical to all organizations. There are contingency factors to consider when diagnosing

control needs. "Contingency factors" are internal or external in nature and have a decisive influence on the company's decisions and actions. Each organization has its cultural specificities, its characteristics. It is the consideration of all these internal and external factors that the performance measurement system can successfully implement in organizations.
Contingent approaches thus give new legitimacy to the balanced dashboard by allowing it to adapt to complex organizations with a dual mission. Indeed, the influence of contingency factors on the choice of performance measurement has been the subject of a multitude of studies in recent years. These factors include size (Germain, 2004; Elhamma A., 2017; Cauvin and Bescos 2005), age (Ibrahimi and Nyam 2017), structure (Kalifa A., 2014), technology (Bergeron 1998), strategy (Elhamma A., 2011; Cauvin and Bescos 2005) and environmental uncertainty (Cauvin and Bescos 2005; Germain C., 2004).
In the course of our work, we will limit ourselves to a few contingency factors such as: size, age of the company, business sector and public participation.

2.1.3- Factors influencing the diversity of indicators in the dashboard
Several factors influence the nature of the indicators developed in company dashboards. These factors include:

2.1.3.1- Size
Mergot (1990) believes that the change in the size of the company probably affects all components of the company, whether in terms of those activities, these functions or its human resources. These changes are accompanied by new management and management methods.
Several studies on performance measurement systems (Besscos and Cauvin 2005; Germain 2004; Hoque and James 2000; 2013 Zian H. A. Elhamma 2011) lead to similar results: the use of performance indicators varies with the size of the company. The size has a positive impact on the degree to which indicators are integrated into the dashboard. Similarly, Ashina (2014) concluded from her study on Moroccan public institutions (41 companies) that as the size of the company evolves, the company implements a modern management control system. These different results lead us to the formulation our hypothesis. ***The larger the size of the public enterprise, the more "balanced" the scoreboards tend to be.***

2.1.3.2- Age
Nyam and Ibrahimi (2017), in their study on Moroccan public organizations, find that the age of the company has a positive effect on the degree of use of non-financial indicators, in this case indicators related to the organizational learning axis. These results are similar to the Davilla's (2005) conclusion. The age of the organization can thus stimulate the evolution of management practices and methods through the learning process. These conclusions allow us to establish the following hypothesis: ***the older the public enterprise, the more "balanced" dashboards it has***.

2.1.3.3- Business sector
Some researchers find that management control practices depend on the company's business sector. Ngongang (2013) sees a positive link between the practice of analytical accounting and the industry. In his study sample, he found that 60% of companies that practice analytical

accounting are in the industry, 20% are in trade and 20% are in service. Bampoky and Meysonnier (2012) conclude that management accounting is more developed in industries where the value chain is large and complex than in business activities where there is little complexity to manage and where the value chain is reduced.
Houda Zian (2013) finds Small Medium Industries (SMIs) dashboards to be more sophisticated than Small Medium Enterprise (SMEs) operating in the commercial or service sector. We also believe that the industry can be critical to the diversity of management indicators. ***Public enterprises operating in the industrial sector have more "balanced" dashboards than those in the commercial or service sector***

2.1.3.4- Public Participation

Several studies have highlighted the strong presence of the State in capital and the development of management control systems. In Senegal, for example, Bampoky and Meysonnier (2012) find that in purely public enterprises, compared to those of private or parapublic enterprises, management control is rather procedural and based on rules. Management control is akin to financial control. This is also the observation made in Niger where the supervisory authorities often at the origin of management control tools developed within companies. This often marks a strong focus on the budget tool (Ouma H., 2016). The same is true in Djibouti (Osman and Meysonnier), Morocco's Ashina K., (2014) where the state participation in the social capital is decisive in the choice of management tools. Hence the hypothesis: ***in a public enterprise, as much as the state is a minority in the social capital as much it has a "balanced" dashboard***

3. RESEARCH METHODOLOGY

To confirm or disprove our above research hypotheses, we referred to the hypothetico-deductible method.

3.1- Study sample

To build our sample study, we used reports produced by institutions such as the National Institute of statistics, the Ministry of Finance, the Ministry of Economy and Planning, as well as the various reports produced by donors on the situation of Cameroonian public enterprises. According to recent statistics, there are about 28 public-owned companies in the public sector, 26 mixed-economy companies with a majority and minority stake in the state and almost 80 public institutions. Our study focused on industrial public companies and market-like services. Out of the 59 questionnaires submitted, we received 32 usable questionnaires. Our sample is therefore composed of 32 companies at least 8 years of age and divided between the littoral, Central and North regions.

3.1- Data collection and processing

Our data was collected using a questionnaire addressed to those responsible for accounting, financial and management control operations. Through the SPSS software, we calculated Pearson's correlation coefficients on the one hand, and we performed the variance analysis to verify our various research hypotheses on the other hand.

3.2- Measurement of variables

The measurement of the variable concerns both the dependent variable and the independent variables.

3.2.1- Measurement of the dependent variable "balanced dashboard"

Designed in the early 1990s to address the inadequacy of traditional tools focused on exclusively financial performance measures. BSC is an alternative to all forms of conventional performance measurement. According to its designer, this tool allows any company to translate the strategy into concrete action and to monitor performance variables by adopting a general or "balanced" view of the company's activity (Germain, 2004).

In order to achieve a balanced or overall performance measurement, several authors suggested a variety of indicators based on the Kaplan and Norton's work. These different indicators are grouped around four performance axes as presented by its designers. Referring to Germain's (2004) work, that of Cauvin and Bescos (2004) or that of Elhamma (2011, 2014) or that of Ibrahimi and Nyam (2017). We were able to identify several indicators grouped around four axes:

- Financial indicators: profitability, cash flow, added value, gross operating surplus, gross margin rate, rate of change in turnover.
- Customer axis indicators: changes in market share, customer satisfaction and loyalty, percentage of sales with old and new customers
- Indicators related to internal processes: number of new products introduced into the market, amount allocated to research and development activities, percentage of sales made on new products, innovation in production and distribution activities.
- Indicators geared towards organisational learning: number of hours of employee training, overall amount of training, social climate, absenteeism rate, reduction of accidents at work, etc.

In our questionnaire, respondents are asked to indicate from a scale the degree of use of indicators ranging from "very low" to "very high." These different indicators are grouped around four axes. From this measurement tool, we can therefore assess the level of presence of the indicators of each axis that constitute the scoreboards and obtain an overall score evaluated on 20 points. So the closer the overall score is to 20, the more "balanced" the scoreboard is.

3.2.2- Independent Variable

Our work highlights several independent variables, including size, age, industry and business category.

- **Company size**: The size other company can be measured through several elements such as: number of employees, turnover, budget volume, net income, amount of capital (Elhamma A., 2011; Ibrahimi and Nyam 2011). Following the work of Bescos and Cauvin (2004), Germain (2004), Ibrahimi and Nyam (2017), we have used the number of staff to measure the size of the company. This choice was motivated by the fact that this data is not very sensitive and can be easily obtained either in documents or from companies. The measurement scale thus selected is

derived from the Fotso's (2011) work on Cameroonian public enterprises: 1- less than 100 employees, 2- between 100 and 250 employees, 3- between 250 and 500 employees, 4- between 500 and 1000 employees, 5- more than 1000 employees.

- **Age of the company**: Age is an expression of the company's lifespan. In the case of this research, this variable is measured by referring to the work of several researchers. This is how we asked respondents to tell us about the length of their business.
- **Business sector**: The measurement of this variable is done through a nominal scale of measurement to which were associated the following three response modalities: 1- industrial sector, 2- commercial sector and 3- service sector
- **State participation**: In order to better appreciate this variable, we were focused on the one hand in the definition of the public enterprise enumerated in the 2017 law on the general status of Cameroonian public enterprises and on the other hand on the distinctions made between publicly-owned and mixed-economy companies regardless of the level of state participation. According to Article 3 of this law, the public enterprise is a company whose capital is wholly or predominantly owned by the state or its dismemberments. Thus, since the State is poorly represented in social capital, the provisions of the 2007 law are not applicable to it. From these conclusions, we can have three cases of different figures: 1- Public-capital companies (PCC), 2- mixed-economy enterprises with majority government participation as well as its dismemberments (SECPMA), 3- mixed-economy enterprises with minority participation of the public authorities and its dismemberments where the State is poorly represented in share capital (SECPMI)

4. RESULTS AND DISCUSSIONS

The results of our study will be presented in two phases. The first phase concerns the nature of the indicators incorporated in the dashboards of Cameroonian public enterprises (3.2) and then these results will be explained by organizational contingency factors (3.3). But before all this, we can give the descriptive results of our study population (3.1).

4.1- Descriptive result of the study population

Table 1: descriptive result of the age and size

Company's age	Staff	Percentage	Size of the enterprise	Staff	Percentage
Less than 20 years old	7	21.8	Fewer than 100 employees	4	12,5
Between the age of 20 and 40	14	43.7	Between 100 and 250 employees	5	15,6
Between 40 and 60 years old	8	25.2	Between 250 and 500 employees	12	37,5
More than 60 years	3	9.3	Between 500 and 1000 employees	6	18,8
Total	32	100	More than 1000	5	15,6

			employees		

Source : our analysis

Reading the table above shows that 78.2% of the companies in our study sample have more than 20 years of activity and 71.9% of them have more than 250 employees.

Table 2: descriptive result of the business public and business sector

Business public category	**Staff**	**Percentage**	**Business sector**	**Staff**	**Percentage**
PCC	15	46,9	Industrial	18	56,3
SECPMA	8	25,0	Commercial	4	12,5
SECPMI	9	28,1	Service	10	31,3
Total	32	100,0	Total	32	100,0

Source : our analysis

In terms of company category, it is observed that public-owned companies are strongly represented with more than 46.9% followed by companies with minority public participation 28.1% and finally companies with majority public participation 25%.

In the case of the activity sector, the industrial sector dominates with almost 56.3% of companies. After that comes the service sector 31.3% and the commercial sector 12.5%.

4.1- Nature of the indicators integrated in the dashboards

Analyzing the content of the BSC consist in assessing the degree of use of indicators of each performance axis. Given that the balanced dashboard is built in the turn of four axes (financial indicators; customer axis indicators; internal process efficiency indicators and indicators related to organizational learning), respondents were asked to specify the degree of use of indicators on a five-point Likert scale ranging from very low to very high usage. This allows us to evaluate the degree of use of each performance axis in order to obtain an overall score that enables to assess whether the dashboards are "balanced" or "unbalanced".

Based on the average scores assessed on each performance axis, it was found that the indicators that make up the four performance axes are not equal. The dashboards of public enterprises are rather moderately "balanced". The following synoptic table presents the descriptive results.

Table 3: Descriptive Statistics of steering indicators in Sampled Companies

Elements	Very low	Low	Medium	High	Very high	Average score
Financial Indicators	00 (00%)	00 (00%)	07 (21.9%)	09 (28.1%)	16 (50.0%)	4.28
Customer indicators	02 (6.3%)	12 (37.5%)	04 (12.5%)	07 (21.9%)	07 (21.9%)	3.16
Internal process indicators	01 (3.1%)	05 (15.6%)	13 (40.6%)	04 (12.5%)	09 (28.1%)	3.47

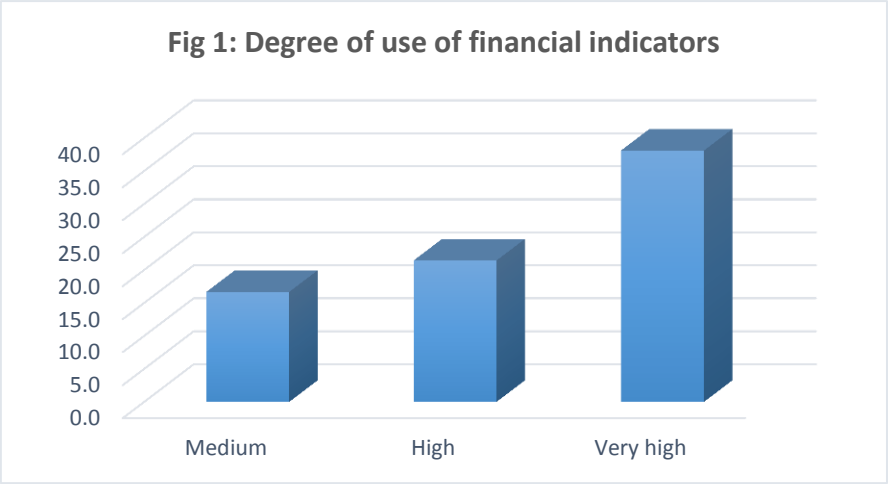
Indicators of organisational learning	03 (9.4%)	14 (43.8%)	10 (31.3%)	03 (9.4%)	02 (6.3%)	2.59
Variety of dashboard content	00 (00%)	02 (6.3%)	18 (56.3%)	10 (31.3%)	02 (6.3%)	13.50

Source: our analyses

From these results, we can interpret each performance axis.

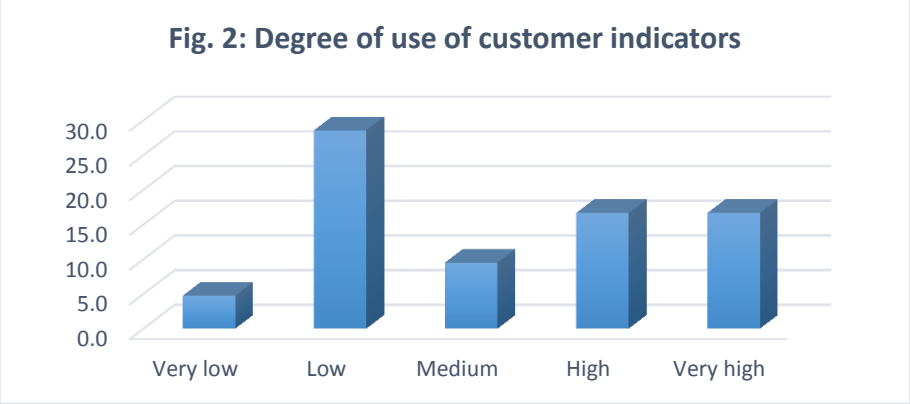
- **Degree of use of financial axis indicators**

The double reading of the table above and the graph below show that in public companies there is a predominance of financial indicators. With an average score of 4.28, the indicators that constitute this axis are strongly integrated into the dashboards. For 78.1% of the companies surveyed, these indicators are used at either a high or very high level. Compared to 21.9% of companies that estimate these indicators are moderately used.



- Degree of use of customer axis indicators

The following graph presents information on the degrees of use of the client axis indicators:



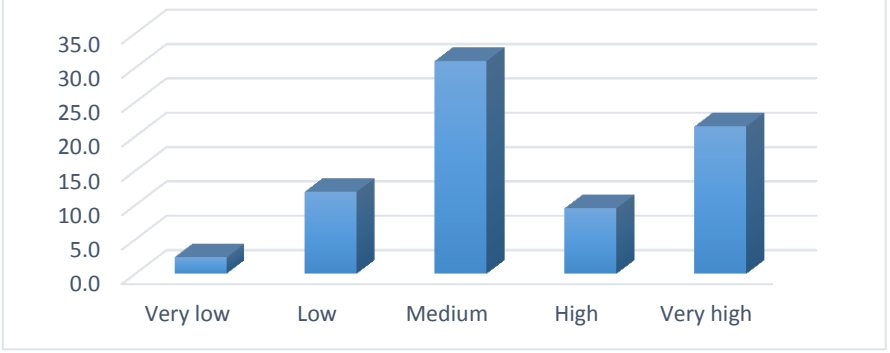
In the case of the customer performance indicators, we note that in 43.8% of the companies surveyed, these indicators are poorly represented. On the other hand, in 12.5% of the companies, these indicators are moderately used.

- **Degree of use of the indicators for internal process axis**

With regard to internal process indicators are concerned, it can be seen that in 40.6% of the companies surveyed, these indicators are used either at a high or very high level. On the other

hand, in 18.7% of the companies, these indicators are used at a low level and for 40.6% of the companies surveyed, these indicators are used moderately. On a general level, the indicators in this axis are used moderately by the companies in our sample.

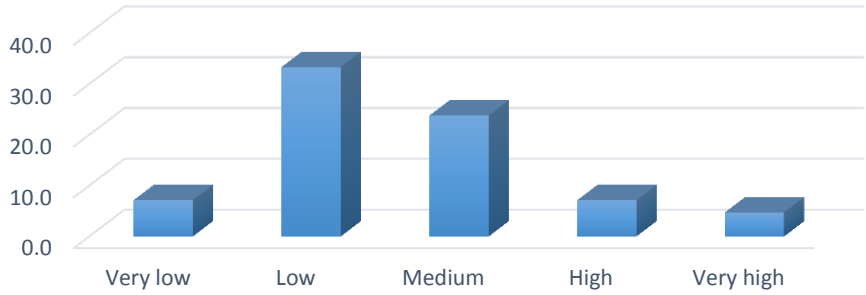
Fig. 3: Degree of use of internal process indicators



- **Degree of use of organizational learning axis indicators**

And finally, for indicators related to the organizational learning axis, there is a very high use in 6.3% of companies, but in 43.8% of companies, these indicators are poorly used. Moreover, in 31.3% of companies, these indicators are used moderately. On the whole, all these indicators of this axis are moderately used.

Fig. 4: Degree of use of organizational learning indicators

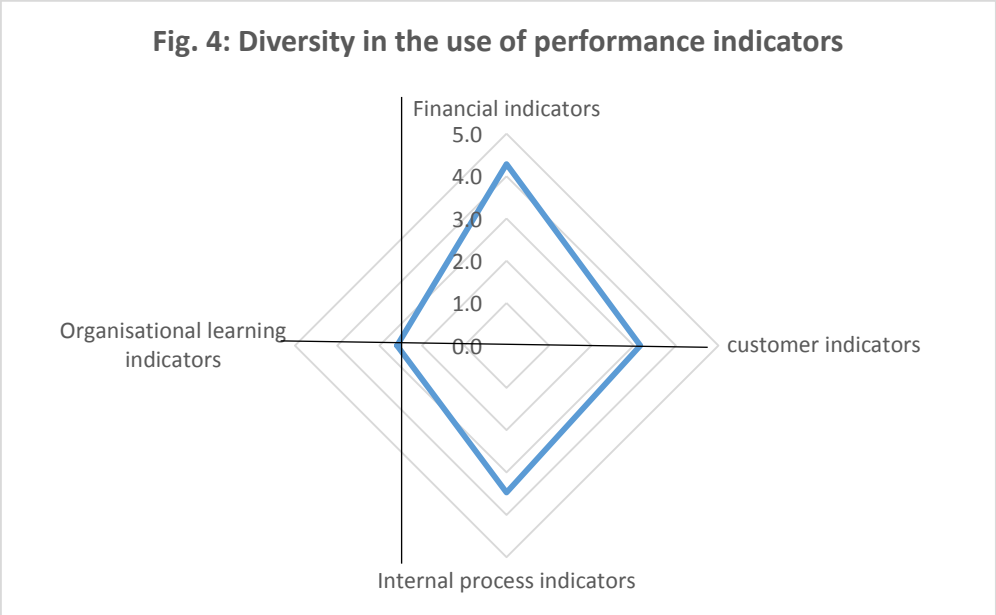


As we have previously started, the degree of use of pilot indicators in the public enterprises in our sample is measured by 4 metric scale items on which we applied the score method. The following graph in a general way illustrates the most privileged performance axes in the dashboards of public enterprises.

Overall, we find that the balanced dashboards in our sampled public companies are moderately "balanced" (13.59).

Moreover, the most preferred performance measurement system is financial. Non-financial performance measures for clients and the internal process are moderately represented. As for the organizational learning axis, its representativeness is low in the dashboards of the companies studied.

It can be started that in the majority of public companies in our sample, the performance control indicators are poorly used.



4.2- Impact of contingency factors on dashboard balancing

In order to test the different research hypotheses, Pearson's linear correlation test was used for the first two variables (size and age) to see the intensity of the relationship and for the other variables, the variance analysis will be conducted.

4.2.1- Impact of size and age on the balance of the dashboards of public enterprises

To test the two hypotheses formulated, the Pearson correlation test will be used to see the relationship between dependent and independent variables. The following synoptic table shows the results.

Table 4: result of the pearson correlations

		Company size	Company age
Balancing dashboards	Pearson Correlation	***,404****	,324
	Sig.(bilateral)	,022	,071
	N	32	32
Degree of use of financial indicators	Pearson Correlation	,037	,260
	Sig. (bilateral)	,839	,151
	N	32	32
Degree of use of customer indicators	Pearson Correlation	***,368****	,087
	Sig. (bilateral)	,038	,634
	N	32	32
Degree of use of internal process indicators	Pearson Correlation	,217	,037
	Sig. (bilateral)	,234	,841
	N	32	32

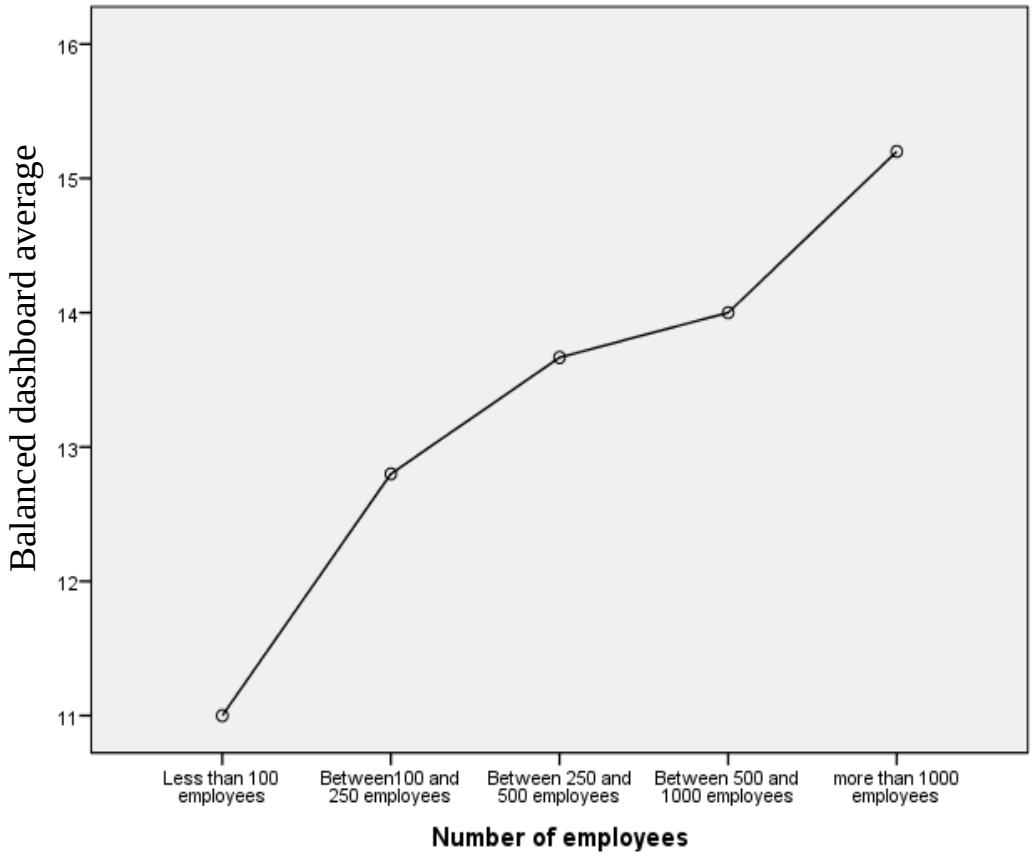
Degree of use of indicators of innovation and organizational learning	Pearson Correlation	***,369****	***,540*****
	Sig. (bilateral)	,037	,001
	N	32	32
****. The correlation is significant at level 0.05 (bilateral).***			
*****. The correlation is significant at level 0.01 (bilateral).***			

Source: our analysis

The results provided by this table, indicate that the relationship between age and the balance of dashboards is not significant. Age does not affect the variety of indicators in the dashboard. However, this relationship remains significant between the age of the company and the degree of use of indicators of the organizational learning axis. The older the company, the more likely it is to use organizational learning indicators. These different results converge with either Zian's (2013) findings or those of Ibrahimi and Nyam (2017).

With regard to the relationship between the size and balance of dashboards, it is significant at 5% (***Pearson Correlation: - 0.404 and Sig: 0.022***). Size has an impact on the degree of use of dashboard indicators. But more specifically, size has a positive impact on the level of use of client and organizational learning indicators. However, there is no link between the size and presence of financial indicators and the size and degree of use of internal process indicators. The use of these indicators (financial and internal processes) does not depend on the size of the company. The impact of the size on the balanced of the dashboards is represented on the diagram above:

Fig. 5: Impact of the size on the balanced dashboards



It is observed that the average balancing of dashboard is higher in companies with more than 1000 employees than in companies with 250 to 500 employees.

In general, the first hypothesis can be validated and it can be concluded that the larger the size of the company, the more balanced its dashboards are.

These results converge with the conclusions of Germain (2004) and Elhammi A., (2011) where they note that the indicators of performance measurement increased successively with the size of the company.

4.2.2- Relationship between public participation, business sector and dashboard balance

To test these two hypotheses, the one-factor variance analysis was done. The results of this test are presented in the table below

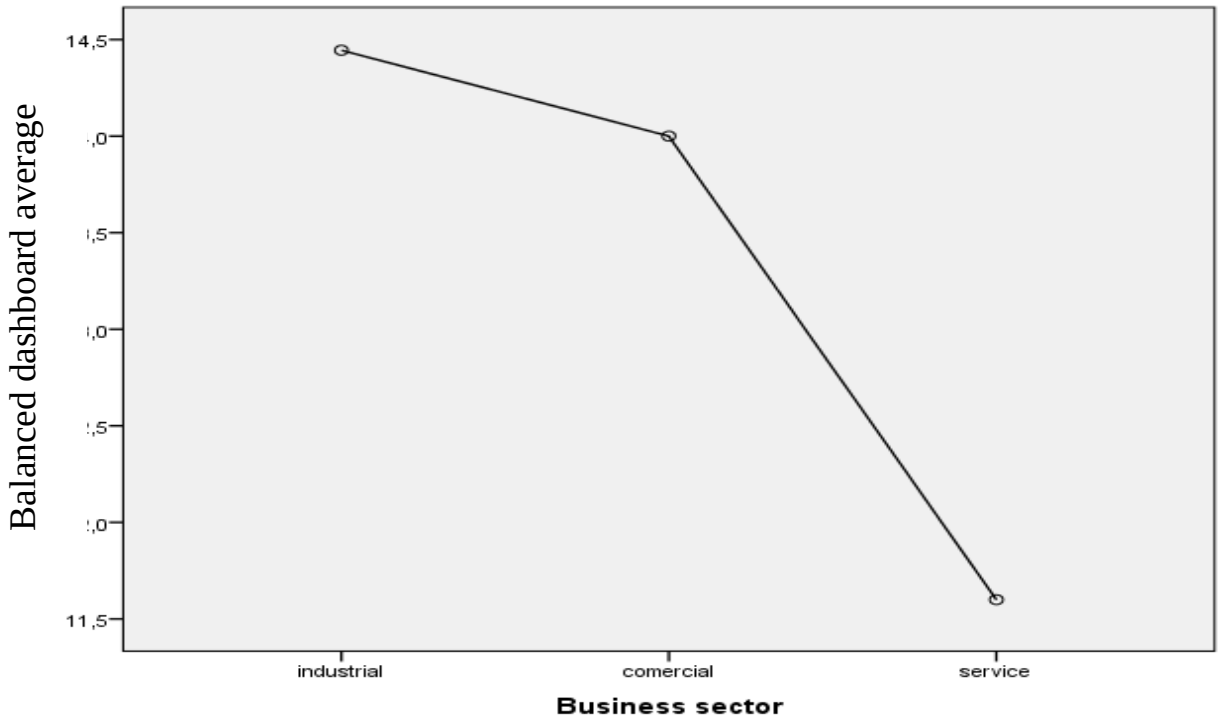
Table 2: Summary of Variance Analysis Results

	Test F	**Sign de F**
Balancing dashboards with public participation	3.496	0.044
Balancing dashboards by bisiness sector	3.956	0.030

Source: our analysis

Analysis of the table reveals a significant Fisher's **(F)** for both balancing the dashboards based on public participation (0.044) and balancing the dashboards by activity sector (0.030). These two significant thresholds are above the 5% threshold. These results show that the relationship between independent variables and the dependent variable is effective.

Fig. 6: Graph of the average frequency of balanced dashboard for each business sector

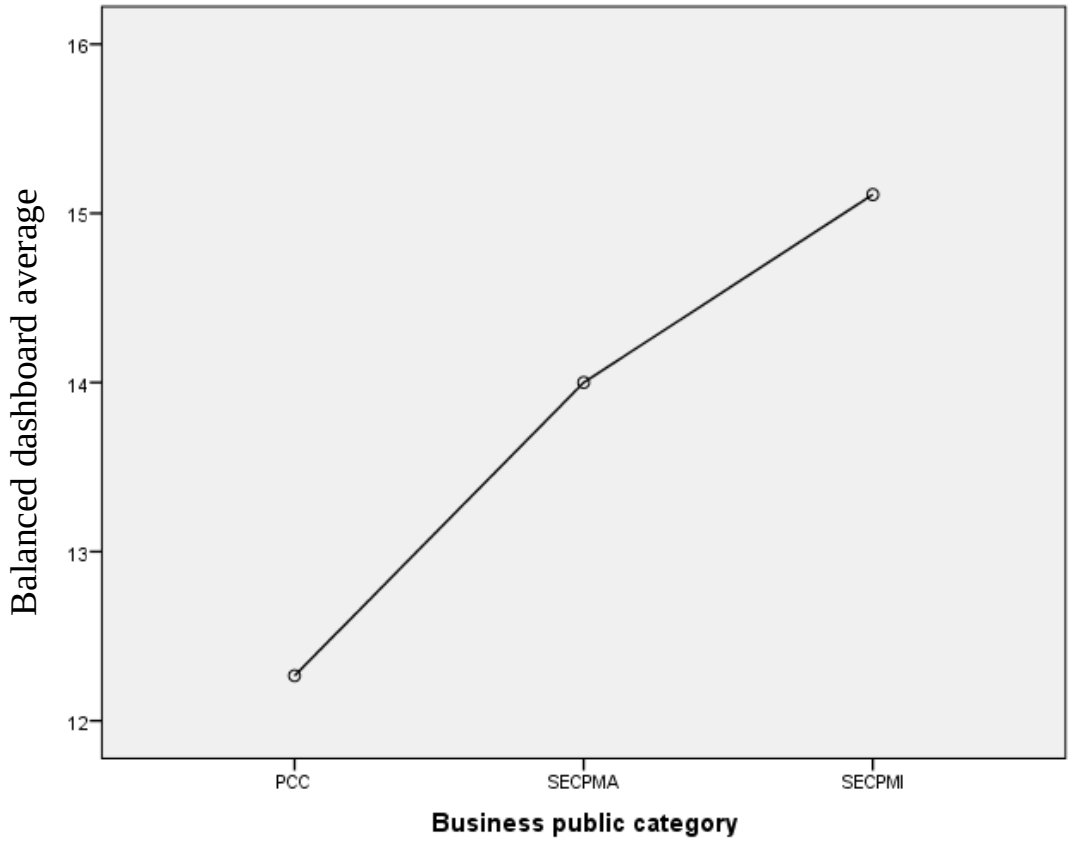


The dashboards of companies operating in the industrial sector are moderately more balanced than those in the commercial sector. While the dashboards of companies operating in the service sector are poorly balanced. **H3** can therefore be validated and it can be confirmed that

the dashboards of companies in the industrial sector are more balanced than those of companies operating in the commercial or service sector.

This finding confirms the conclusions of some authors who found that the type of activity influences management control practices in companies (Zian H., 2013; Kalika A., 2014; Bampoky and Meysonier 2012).

Fig. 7: Graph of the average frequency of dashboard balancing for each business category



In companies where public participation is low, the average balancing of dashboards is high in contrast to companies wholly owned by the state where the average balancing of dashboards is low. The **H3** hypothesis is thus validated and concluded that, as much as public participation in corporate capital is low, the the more scoreboards are balanced. This result converges with the work of (Kalika A., 2014 and Bampoky and Meysonnier 2012) which mainly found that management control tools are more developed in companies where the capital is highly owned by private providers. For example, in our study sample, it is found that mixed-economy companies are those that use the most "sophisticated" or value-creating management control tools.

At the end of these different results, we can synthesize all the results of our different research hypotheses.

Hypothesses	**Statement of hypothesis**	**Survey results**
H1	***The larger the size of the public enterprise, the more "balanced" the scoreboards tend to be.***	Validated
H2	***The older the public company, the more balanced the scoreboards it has***	Rejected
H3	***public enterprises operating in the industrial sector have more balanced dashboards than those in the commercial or service sector***	Validated
H4	***In a public enterprise, as much as the State is a minority in the social capital, it has a balanced scoreboard***	Validated

5. CONCLUSION

This work aimed to determine on the one hand, the nature of the indicators developed in the dashboards and their degree of use, and on the other hand, to determine whether there is a link between structural contingency factors and the steering indicators developed in the dashboards of Cameroonian public enterprises. The contingency factors selected were: size, age, activity sector and public participation. From a sample of 32 Cameroonian public enterprises, it was first realised that the company dashboards are moderately "balanced". The most valued performance indicators are financial in nature. Indicators for the customer axis and internal processes are moderately represented, while indicators related to the organizational learning axis are poorly used by the companies studied.

Secondly, it was observing that the link between the characteristics of the company and the development of performance indicators as recommended in advance is validated by the results of our research. Specifically, it is about size, activity sector and public participation. There is no link between the age of the company and the balance of the dashboards.

However, these results must be interpreted by taking into account certain limitations on the low representativeness of the study population (32 companies). This may jeopardize the generalization of the results. On the other hand, the nature of some indicators given as examples may not be unanimous at the respondent's level, as others may be chosen. In addition, this research opens up other future perspectives by extending the study to other contingency factors that are both structural (environmental uncertainty, the company's adopted strategy) and behavioural (manager's competence, type of initial training of the manager).

6. REFERENCE

[1] **Bampoky, B., & François, M. (2012**), « L'instrumentation du contrôle de gestion dans les entreprises au Sénégal », Recherches en Sciences de Gestion, 5(12), pp.59-80.

[2] **Baaziz A et Khelil M. (2006),** « Balance Scorecard et Pilotage de la Performance. Cas de la division forage », Journée scientifique et technique de Sanatrachfst, 7 novembre 2006, Oram Algérie.

[3] **Bourguignon A. Malleret V. et Norreklit H. (2002)**, « L'inné ductible dimension culturelle des instruments de gestion : l'exemple du tableau et du balance scorecard », comptabilité-contrôle- audit-Tone 8, Vol. 1 pp.7-32.

[4] **Bouquin H. (2001),** Le contrôle de gestion, Presses Universitaires de France, Paris, 5ème éd.

[5] **Cauvin E. et Bescos P.L (2005)**, L'évaluation des performances dans les entreprises françaises : une étude empirique. Normes et Mondialisation, May 2004, France.

[6] **Davila A. (2005),** An exploratory study on the emergence of management control system: Formalizing human ressources in small growing firms. Accounting, organizations and society. 30 (3), pp.223-248

[7] **Elhamma A. (2011),** « l'impact de la stratégie sur le contenu des tableaux de bord : cas des entreprises au Maroc », Edition ICES, Revue Hal Congolaise de Gestion, 2011/2, N°14, p.57-77.

[8] **Elhamma A. (2014),** « Performance du Balanced Scorecard : Perception des responsables d'entreprises », Revue Internationale de Management et de Stratégie, (5:2), www.revue-rms.fr.

[9] **Germain C (2004),** La contingence des systèmes de mesure de la performance : les résultats d'une recherche empirique sur le secteur des PME. Finance Contrôle Stratégie, Association FCS, 2004, 7 (1), pp.33-52.

[10] **Kaplan R.S. et Norton D.P. (1998**), Le tableau de bord prospectif, Les Éditions d'Organisation

[11] **Hoque Z., James W. (2000),** « Linking Balanced Scorecard Measures to Size and Market Factors: Impact on Organizational Performance », Journal of Management Accounting Review, Vol.12, pp. 1-17.

[12] **Kaplan R.S., Norton D.P. (1996),** The Balanced Scorecard: Translating Strategy into Action, Boston, MA., Harvard Business School Press.

[13] **Kaplan R.S., Norton D.P. (2001),** The Strategy Focused Organization, Boston, MA., Harvard Business School Press. Edition française (2002) : Comment utiliser le tableau de bord prospectif, Editions d'Organisation.

[14] **Kalifa A. Taouab O. et Nafzaoui M. (2014)** « Adoption et différenciation des systèmes de contrôle de gestion par les établissements publics Marocains : un essai de modélisation », European Scientific Journal February 2014 edition vol.10, No.4.

[15] **Mayeglé F.X (2008),** « la contribution du tableau de bord prospectif à l'amélioration des performances des entreprises : une étude à partir de 06 cas au Cameroun », thèse de doctorat d'Etat en science de gestion, spécialité : comptabilité-finance, Université de Yaoundé II-SOA, Faculté des sciences économiques et de gestion, Mars 2008.

[16] Ngongang D. (2013), « Système d'information comptable et contrôle de gestion dans les entreprises camerounaises », La Revue Gestion et Organisation 5 (2013) 113–120, journal homepage: www.elsevier.com/locate/rgo

[17] **Ouma H. (2016), «** Les outils de contrôle de gestion dans les entreprises publiques au Niger : un état des lieux », 1ère Journée d'Etude Africaine en Comptabilité et Contrôle – décembre 2016

[18] **Zian H. (2013) «** contribution à l'étude des tableaux de bord dans l'aide à la décision des PME en quête de performances », thèse de doctorat en science de gestion, Université de MONTESQUIEU-BORDEAUX IV, Ecole doctorale entreprise, économique, société (E.D. 42), janvier 2013