

Accounting information system and performance of industrial firms in Douala, Cameroon

Yvette Nathalie Moui OMBOM^{1,2} and Penn Collins CHI^{1,2*}

¹Department of Accountancy and Finance, Faculty of Economics and Applied Management University of Douala, Cameroon.

²Laboratory of Economics and Applied Management, University of Douala, Cameroon.

Accepted 4 September, 2020

ABSTRACT

Accounting information is very essential in the taking of value creation decisions in an organization. Therefore the objective of this study is to identify the relation between the quality of the Accounting Information System and overall Performance within industrial firms. More specifically it builds on the model of Ives, Hamilton and Davis (1980) and Raymond (1984), to propose the conceptual framework of success factors of an accounting information system. The research is an inductive/interpretative research based on the content analysis of five case studies. A conceptual framework of success factors in the light of the model of Raymond (1984) in the Cameroon context is presented based on the analysis of the data suggesting that organizational factors are based on size, the environment and differentiation of information system. While individual factors are based on level of education, leadership style, recruitment etc. Industrial firms should differentiate and integrate their accounting information systems so that they can improve their overall performance.

Keywords: Accounting information system, industrial organization, overall performance, differentiation, integration, coordination mechanisms.

*Corresponding author. E-mail: chingafor2000@yahoo.fr.

INTRODUCTION

In addition to interrelated phenomenon such as globalization, competition, and the business environment, the advancement of information and communication technology has become a major challenge to firms worldwide and in Cameroon in particular. There is no doubt that the information system contributes enormously to the sustainability of many organizations today. It is almost impossible for an organization to operate without an information system that enables stake holders to get useful information to improve decision making and create value for the organization. This does not leave out the accounting information system.

Accounting information system is considered as « an organised set of structures, means and actors that enable the production of accounting information (obligatory or optional, historical or forecasted) that is used by managers of SMEs to manage their firms » (Chapellier and Mohammed, 2010). The role of accounting

information system in an organisation is very essential in taking values creation decisions (Steinbart and Cushing, 1997). Given that it is aimed at improving performance, it has three objectives: the control of conformance, economic, managerial, political and strategic objectives (Togodo, 2011)

An accounting information system is an important tool in the hands of managers who strive to have competitive advantage amidst the rapid technological advancements (Ganyam and Ivungu, 2019). In several countries with different contexts, it has been demonstrated that the adoption of an accounting information system or its improvement increases profitability, efficiency and the performance of operations in the firm (Lavigne and St Pierre, 2002; Sajady et al., 2008; Chapellier and Mohammed, 2010; Ghorbel, 2012; Al Duais, 2013). However, the issue of the contribution of accounting information systems to the overall performance of

industrial firms has not been examined enough.

Several empirical studies support the existence of a positive relation between the accounting information system practices of firms and their performance (Daft et al., 1988; Orpen, 1993). Even though the studies of Rai et al. (1996), Bharadwaj (2000), Damanpour and Gopalakrishnan (2001), do not find a positive relation between the accounting information system and financial performance, those of Naranjo-Gil (2004), Ismaïl and King (2005) and Grande et al. (2011) identified a positive and significant relation between accounting information system and financial performance. Their studies were based on the contingency theory and showed that the mode of accounting organization of the firm has an impact on the achievement of its objectives.

Nevertheless, it should be noted that these studies have several limits such as the exclusive use of financial indicators to measure performance, the consideration of the accounting information system as a set of homogeneous information, the weak level of environmental factors and the persistent use of deductive or quantitative methodology (Gerdin and Greve, 2004). Very few studies adapt the mixed approach (Tort, 2000; Samara, 2004), or the deductive/interpretative/constructivist approach combined with qualitative method of analysis (Elorf, 2012). But the objective of research on information system in general and the accounting information system in particular consists of constructing the reality from the opinion of agents so as to better understand the nature of the problem. In such a context, an inductive/qualitative approach seems to be quite appropriate.

In Cameroon the economic and socio-cultural realities are different. The industrial sector is very diversified. The industry in Cameroon faces specific difficulties such as competition from imported products, internal weaknesses in terms of production and management, difficulties of access to finance, etc. The objective of this study is to verify if situations of differentiation and integration of the accounting information systems have an effect on the overall performance of the firms surveyed. It presents the accounting information system of the industrial firm as a set of differentiated and integrated accounting sub systems with the help of a computer system and its software whose information emanates from several sources and is aimed at different uses. The central research question can be formulated as follows: how do the differentiation and the integration of the accounting information system influence the global performance of industrial firms? this question will be answered in two steps:

- Sort out the relation between the situations of differentiation and integration of accounting systems and the global performance of firms.
- Validate the conceptual framework developed in the information system of Ives et al. (1980), and improved by Raymond (1984).

The major importance of this study is that it validates a conceptual framework of an information system by showing its pertinence. The cause-effect relations between the independent variables (the different factors) and a dependent variable (overall performance); will enable to identify the leverages of overall performance of the accounting information system of an industrial firm.

LITERATURE REVIEW

Studies on the accounting information system and its relation with performance are supported by a precise conceptual and theoretical framework. This highlights the role of accounting information system in understanding performance.

Performance of the accounting information system

Performance is very essential for the survival of industrial firms and is evaluated using a variety of criteria to respond to the expectations of stakeholders of any organisation (customers, employees, shareholders, suppliers, third parties).

The concept of performance

From the multiple definitions of performance (Pesqueux, 1996; Bourguignon, 2000; Bouquin, 2004), it is seen that performance is a result that is obtained with the help of the combination of three elements which are economic, effectiveness and efficiency. In addition, there is not only one performance but components of performance.

The measures of performance

Performance has to be measurable (Lebas, 1995), but it remains difficult. Generally, we distinguish quantitative performance (economic or financial performance) and qualitative performance (that depends on several non-financial elements).

Thus, the performance of a firm can be measured using financial indicators such as earnings before interest tax (EBIT), working capital (WC), return on assets (ROA), economic value added (EVA), etc (Chong, 1996). Despite the simplicity, objectivity and ease of putting them into the computer system, they are criticised for being historical, unpredictable on future performance and uncompetitive (Kaplan and Norton, 2001; Combs et al., 2004a, b). Since the firm has become more interdependent with its external environment, exclusively financial and economic criteria have to be completed with qualitative factors such as quality, the satisfaction of customers, innovation, which are important indicators of growth perspectives of the firm (Eccles, 1999) and enable to have a larger view.

In this study, the performance analysed combines both financial and non-financial elements. In order to answer the central research question of this study we would proceed with some propositions such as:

- The more differentiated the accounting information system, the more likely its role in the global performance of the industrial firm will be perceived.
- The more the accounting system of the firm is computerized and integrated, the more likely the role of the accounting information system in the global performance of the industrial firm will be perceived.
- There exist a relation between the structure, the coordination mechanisms of the firm and the global performance of industrial firms.

Accounting information systems are evolving, complex and are influenced by contingency factors (Bidan, 2003; El Orf and Tort, 2006; El Orf, 2012). Therefore their study requires a constructivist or interpretative inductive approach with the objective of having a perception of the situation so as to have a better understanding of the problem. As such, the method of research chosen is case study. It is an appropriate method for research in information system (Myers and Avison, 2002). With the help of surveys, observations and consultation of internal documents we carried out a comparative analysis of five industrial firms so as to find the relation between the observed situation and the global performance of the firms studied (Eisenhardt, 1989; Yin, 1989). We can therefore present the elements of the research in Figure 1.

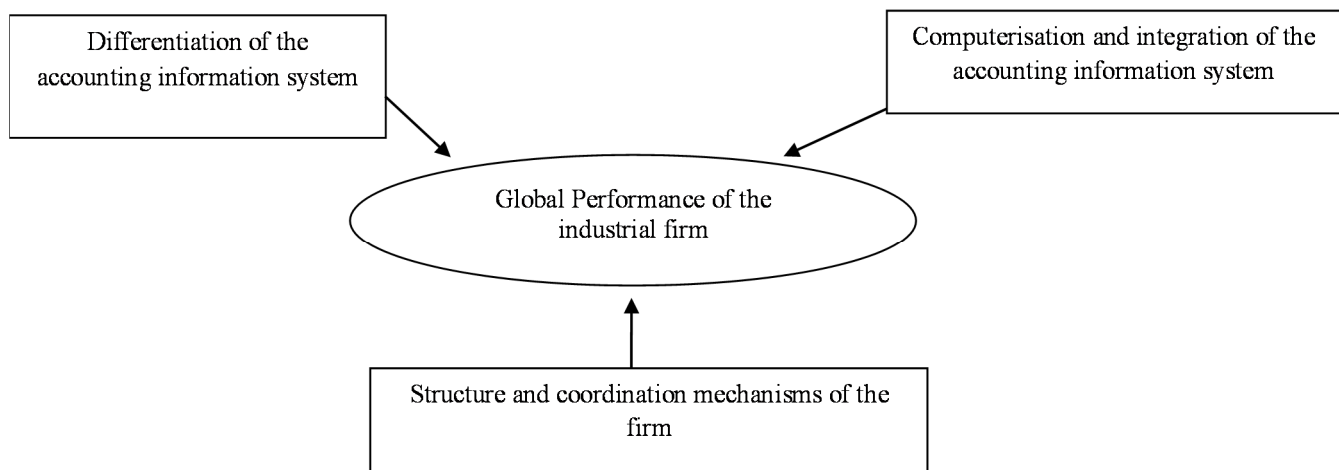


Figure 1. Quality of accounting information system. Source: Authors.

Contribution of the accounting information system to the performance of firms

During the last four decades, the new accounting techniques which have been developed in the industrial sector (Abdel Kader and Luther, 2008) have affected the accounting model making the role of accounting to move from that of determination of cost and control to that of value creation. The accounting information system has to be adequate to the new exigencies (Gerdin, 2005). Some of the indicators of a quality accounting system are security, accessibility, and reliability of data, integration and the timely availability of information that is able to support the performance of an organization (Rosa and Purfini, 2019). In the Cameroon context Atangana (2016) used a sample of 88 firms to show that there is a significant relation between those who audit accounts, the perception of the existing institutional framework of control and accounting regulation determine the quality of accounting information produced. Dhiba and El Hentati

(2018) suggest a theoretical model for the evaluation of the contribution of information systems to performance using the theory of resources. Budiarto et al. (2019) suggest a positive effect of accounting information system alignment on the non-financial performance of SMEs based on ethnicity.

It is equally necessary to evaluate accounting information systems by differentiation and integration since presently these two situations are indicators of the quality of an accounting information system. The impact of the accounting information system on the overall performance of the firm can be perceived from three angles that will be examined in this section:

- First by differentiation which is the division of the accounting service into sub units corresponding to the environment according to the size of the firm (1)
- Then by integration of accounting information that is the utilization of information technology to support the accounting service (2).

- Finally according to the structure of the strategy and the coordination mechanisms of the firm which takes into consideration the role of an individual at work (3).

The role of accounting differentiation in the overall performance of the industrial firm

In Cameroon, the use of traditional accounting methods is very frequent in the agro-food industry, the mechanical industry and the chemical industry, especially when the firms are small in size¹. The contribution of a quality accounting information system to such an enterprise gives the capacity to actors to conceptualize and measure its value and its impact on the global performance (operational, competitive, financial and social).

According to the systemic theory, the firm is a system that can be sub divided into several sub systems and in order to characterised it has to be differentiated. According to Lawrence and Lorsch (1967) differentiation is the division of a system into several distinct subsystems. This disintegration enables each unit to measure its performance. The accounting information system can be divided into several sub systems (procurement, sales, input of transactions, budgets, management control, analysis of costs, etc). In this differentiation the size and the environment play a major role (Lawrence and Lorsch, 1967; Blau, 1970; Kalika, 1988; Bidan, 2003). It is the responsibility of the accounting sub systems to capture the information and select that which is convenient. As such it becomes easier to isolate performance by function.

The role of computerisation and the integration of accounting information systems in performance

The performance of the organisation is improved through a good choice of technological means that correspond to the objectives of the organization. In this light El Orf (2012) redefines the accounting information system as a « the set of technical dispositions (*softwares, data base, interfaces, ERP softwares, etc.*) that an organisation puts in place for (1) *typing, classifying, recording numerical data and (2) provide a set of information that conform to the needs of different users after appropriate treatment*». In the aspect of computer software and hardware, the major advantage of the accounting information system is to treat important volumes of information within a short period of time and this improve the decision making conditions of managers.

Studies have shown that the integration of technologies

related to information orientate accountants towards a more active role in the decision making process (Davis and Albright, 2000; Devaraj and Kohli, 2003). This highlights the fact that the firm is a techno social system.

The role of the organizational structure and the coordination mechanisms in the achievement of performance

The integration of differentiated sub system is not only technical. It can in fact happen that differentiation transforms the firm into small autonomous states with no relations among them (balkanization). To overcome this, Lawrence and Lorsch (1967) proposed several mechanisms of integration which use social factors. In general accounting, the manager is the producer and user of data (Lacombe-Saboly, 1994); he is therefore responsible for the quality of his accounting information system. Moreover, to be efficient, the putting in place of the accounting information system has to be accompanied by organizational changes. That is why in this study integration has been mobilized by hierarchy and the coordination mechanisms as being a third necessary component for a quality accounting information system.

Firms that perform well have to enable the individual to accomplish tasks corresponding to its competence (need for accomplishment), but also to communicate with others (need for identification) and exercise an authority on them (the need for power). The structural contingency approach explains the organizational change resulting from the role of external factors. Other analyses insist on the role of individuals and the importance of the internal context of organisations (Trist et al., 1963; Child, 1972; Crozier and Friedberg 1977). Given the adverse effects of the environment, the organizational changes based on technology make firms to be reactive and improve their productive performance (Bresnahan et al., 2002).

METHODOLOGY

Research in management is aimed at developing management practices of firms. Our research is inductive/interpretative since it uses our perception of the reality. Thus it is a qualitative research based on case studies.

Source of data

A qualitative research methodology is adopted by structured interviews of enterprises in the town of Douala-Cameroon. The interviews were carried out at the convenience of the managers of the enterprises in accordance to an arranged appointment. In fact, the managers of five enterprises in the town of Douala were

¹According to the second general survey of enterprises carried out in 2016 Cameroon, only 18.7% of firms prepare formal accounts and present accounting statements that conform to the exigencies of the OHADA accounting law (NIS, 2016).

interviewed. All the interviews were conducted within the premises of the enterprises. Direct observations of the procedure of recording accounting information, participating in at least one board meeting, guided visit of the production workshops, consultation of the economic press and internet websites.

Selection of cases

The study is based on five firms. The selection of the cases was based on four factors which are: the geographical location, representation of the sector, access of persons to interviews and our financial means.

Treatment and analysis of data

In this study, we use the strategy of comparative analysis. The data collected is organized in the form of matrices according to some key criteria. This comparison identifies the differences and similarities and facilitates the proposal of solutions.

RESULTS AND DISCUSSION

The results are examined in accordance to the three aspects corresponding to the initial propositions which are:

- The role of accounting differentiation on the overall performance of the industrial firm;
- The role of computerisation and integration on the overall performance of an industrial firm;
- The role of the structure and coordination mechanism on the overall performance of an industrial firm.

Our five cases of firms belong to the industrial sector and are presented in Table 1.

Differentiation of the accounting information system

The accounting information system of firms A and B does not have a formal accounting service. On the contrary, firms C, D, and E have a differentiated accounting. Table 2 shows the role of the size of the firm in this differentiation.

Lawrence and Lorsch (1967) suggest that because of its growth the firm differentiates itself. Nyenguè Edimo (2007) confirms this: « Any activity of capital importance for the realisation of the objectives of the firm gives birth to a strategic organ». In practice, the more the firm possesses a working division that enables it to identify the different facets of the environment (purchase, sales, inventory, etc ...). In firm E any accounting activity leads to an accounting department. In firms CDE, the division

of accounting services enables each accounting unit to measure its performance. The size is an important differentiating factor. Table 3 presents the perceived performance resulting from differentiation.

Firm A is not differentiated and has a turnover that evolves slowly, in a tensed social atmosphere and lack of global performance; firm B on the contrary. Despite the absence of differentiation but with the help of organized accounting, clear formulation of objectives and utilization of some tools (Forecasted balanced score card) presents a satisfactory global performance. As for firms C, D and E their accounting information system is formally differentiated with a clear definition of accounting tasks, a strict respect of imputation and validation procedures. Also, firm C can identify in these results that it has a good accountability but a poor liquidity. The turnover of Firm E is decreasing for some products. The ROI (Return on investment) of firm D is not yet effective and it is seeking to make it effective. According to the structuring theory, the contribution of each accounting position to the income is a fall in communication between management and subordinates (Beldi et al., 2006). Accounting supports decision taking and managerial action. Given all these results we can confirm that the more differentiated the accounting information system is the more likely its role in the global performance of the firm will be perceived.

The role of computerisation and the integration of accounting information on the performance of industrial firms

In Cameroon, it is frequent to find computers in firms of all sizes. However, computerizing an enterprise is more than having computers. According to the contingency theory, the computer system should allow for the integration of accounting differentiated accounting sub systems. Table 4 provides information on the extent of computerization in the firms studied.

It is possible to show the perceived performance of each firm resulting from computerisation and integration (Table 5).

Apart from firm A that does not have good performance, the other firms perceive the advantages of computerisation and integration on their results. Firms B and D have elaborated a follow up of their debtors and this reinforce their treasury. Firm C benefits from good decision making and firm E from accounting software adapted to the firm that leads to the efficiency of its operations.

The role of the organisational structure and the coordination mechanisms in the achievement of the performance

Table 6 shows four aspects of the structure and mode of coordination in the firms studied. These are hierarchy, the

Table 1. Description of the case studies.

Case	A	B	C	D	E
Type of firm	VSE	SE	ME	LE	LE
Sector	Industrial (private)	Industrial (private)	Industrial (private)	Industrial (private)	Industrial (private)
Branch	Construction material Metallurgy wedeling	The wood, printing and industry	The wood, paper, editing and industry	Foodstuff, drinks and tobacco	Foodstuff, beverages and tobacco
Representativeness of the branch	8.2%	9.3%	9.3%	5.9%	5.9%
Localisation	Douala	Douala	Douala	Douala	Yaoundé
Subsidiaries	No	No	No	No	Yes
Person interviewed	Administrative Director	Administrative responsibilities	Management Controller	Responsibilities of human resources	Administrative assistant
Other attributions	Accounting officer, human resource manager	Calculate the cost of return, internal control, follow-up of orders, internal accounting	Taxation accounting	Internal Control, bank statement, keying in data	
Age (in year)	03	11	12	07	25
Size (Frequency)	05	14	40	98	350
Capital	1 000 000	10 000 000	10 000 000	100 000 000	1 000 000 000 (2014)
Turnover in 2016	2 000 000 (an increase)	(an 70 000 000 - 75 000000 (an increase)	100 000 000 (a fall)	(a 4 500 000 000 (an increase)	(an 22 000 000 000 (an increase)
Formal accounting service	No	No	Yes	yes	yes
Number of employees in charge of accounting	01	03	06	10	10

Source: Authors from field survey in 2018.

Table 2. Evolution of accounting personnel according to the number of employees in the firm.

Firm	A	B	C	D	E
Total employees	05	14	40	98	350
Number of employees in the accounting service	01	03	06	10	10

Source: Authors from field survey.

Table 3. Categories of performances induced by accounting differentiation.

Case A	Slow evolution of turnover, difficult recovery of debtors, and the inexistence of a cash budget.
Case B	Good evolution of turnover, effective ROI, short term financial objective to take into account the competitive context, the use of some ratios, good management of creditors and suppliers.
Case C	The turnover is in regression, difficulty of paying creditors, difficulty of recovery debtors, fierce competition, and low level of sales because of fantasist orders.
Case D	Strong evolution of turnover, repayment of debts, negative net situation but positive operating income, good follow up of debtors.
Case E	Despite the strong evolution of turnover since 2016. Enterprise E is profitable. It invests in the opening of subsidiaries in Central Africa. Good debt recovery policy.

Source: Authors from field survey in 2018.

Table 4. Categorisation of the type of computerisation.

Case A	Elementary computerisation, use of accounting software, results edited by Administrative director, absence of integration of accounting information
Case B	Unintegrated but organised accounting information system
Case C	Unintegrated but organised accounting information system
Case D	Integrated and organised accounting information system. Accounting is very computerised
Case E	Integrated and multidimensional accounting (subsidiaries). Extremely computerised accounting

Source: Authors from field survey in 2018.

Table 5. Categorisation of perceived performance induced by computerisation and integration.

Case A	Accounting data well secured, but poor performance
Case B	Good computerised organisation confers a good financial position to the firm and eases the follow up of debtors. As such, the firm has few bad debtors and this contributes to a positive ROI.
Case C	Good global performance. Computerisation helps a lot in the taking of appropriate decisions, since despite the performance of the firm is facing difficulties
Case D	Good global performance, good follow up of debtors, turnover in constant progression, well secured accounting data and computer material.
Case E	Good global performance and strict respect of procedures. The softwares conceived are adapted to the needs of the firm.

Source: Authors from field survey in 2018.

Table 6. Categorisation of organizational structure and modes of coordination.

Case A	Relaxed system, lack of comprehension among the members of the firm, recruitment by affinity. This affects performance and even when we have the impression that everything is fine, the results could still be better with a clear and precise definition of the tasks of each employee.
Case B	Vertical authority, the major white collar employees of the firm have a university degree, responsibilities are very centralized and this create a sympathetic social atmosphere and favours a global performance. Management takes into account the needs of the employees.
Case C	Paternalist system, the manager is a former accountant and give responsibilities to his subordinates, the absence of sanctions leads to the creation of a familiar atmosphere and the good financial results emanate from the fact that the social climate is calm and the employees benefit from attention.
Case D	Hierarchical system, objectives are clear and well defined, the hierarchical structure is respected there is professionalism and the relative peace observed depends on the employees.
Case E	Firm is well implanted; the actual problems are well mastered with the opening of subsidiaries in countries from which counterfeits come from, mastery of social climate due to the longevity of the firm, very rigid hierarchical structure.

Source: Authors from field survey in 2018.

qualification of the personnel, the training of the manager and the structure.

Table 7 shows the induced social performance of the five cases.

Firms B and C operate like a family, with well

entrenched social rules such as assistance. Firm D pasted the internal rules and regulations and employees are briefed every week on the objectives to be attained. In firm E, the notion of team work transpires in the attitude of employees who support the firm during difficult

Table 7. Categorisation of induced performance by structure and mode of coordination.

Case A	Salary arrears, poor definition of tasks, conflict between managing director abroad and the administrative director, conflict between employees, insubordination, sometimes employees refuse to work.
Case B	Good definition of tasks, vertical authority but a family spirit, a serene social climate, evolution of the income of employees.
Case C	Serene social climate paternalist authority, no dismissal, rare sanctions, payment of salaries, sharing of benefits.
Case D	Good human resource management, implication of employees in the objectives of the firm, strict authority, the sanction system recompenses, social climate is stable due to the payment of salaries.
Case E	Climate is stressful because of the state of the market, but the employees want to support the firm. The management of the different allowances is remarkable during periods of difficulty. The authority is strict. The age of the firm enables it to pay its employees without any problem.

Source: Authors from field survey in 2018.

moments. Firms C and E record a good social performance despite fierce competition and this enables them to avoid financial disasters.

Replication of the theoretical model: the conditions of the performance of the accounting information system

The theoretical framework that we have used and the triangulation of data enabled us to identify the overall performance leverages of the accounting information system. These leverages are inspired from the studies of Ives et al. (1980) and Raymond (1984).

Proposal of a conceptual framework for the relation between the accounting information system and performance

Several conceptual frameworks have proposed conditions under which an accounting information system can provoke the performance of a firm (Garry and Scott Morton, 1971; Lucas, 1973; Mock, 1973). However, the model used in this study is that of Ives et al. (1980). It is a causality model that shows the relation between the independent variables and the dependent variables. The model presents three groups of variables:

- Environmental variable group: made up of resources and environmental constraints
- Process variable group: made up of measures of performance
- IS variable group: made up of the characteristics of the managerial information system

The basic conceptual framework of Ives et al. (1980) was

refined by Raymond (1984). The model of Raymond is presented in Figure 2.

In this study, accounting differentiation, integration of accounting information and the structure/mode of coordination are the explanatory variables and correspond to our three propositions. The global performance is the dependent variable. By combining the independent variables and the dependent variable of our study we obtain a similar model to the conceptual framework developed in information system by Ives et al. (1980) and refined by Raymond (1984). This model consists of:

- Organisational factors which refer to elements such as the size, the environment, the structure, differentiation.
- Informational or technical factors which concern the circuit of information and its support organs.
- Individual factors which refer to human factors.
- The success factors that are represented by the global performance.

Replication of the model of Raymond in the context of Cameroon

To study the five cases of firms, we used three sources of data: interviews, observations and documents. We proceed by triangulation of the data so as to identify the leverages of the global performance of the accounting information system. It should be recognised that these leverages have already been identified in other contexts to the extent of contributing to the elaboration of the model of Raymond (1984); the reproduction of this result in the Cameroon context will enable us to see the behavior of the model.

Organisational factors: It is based on the structural

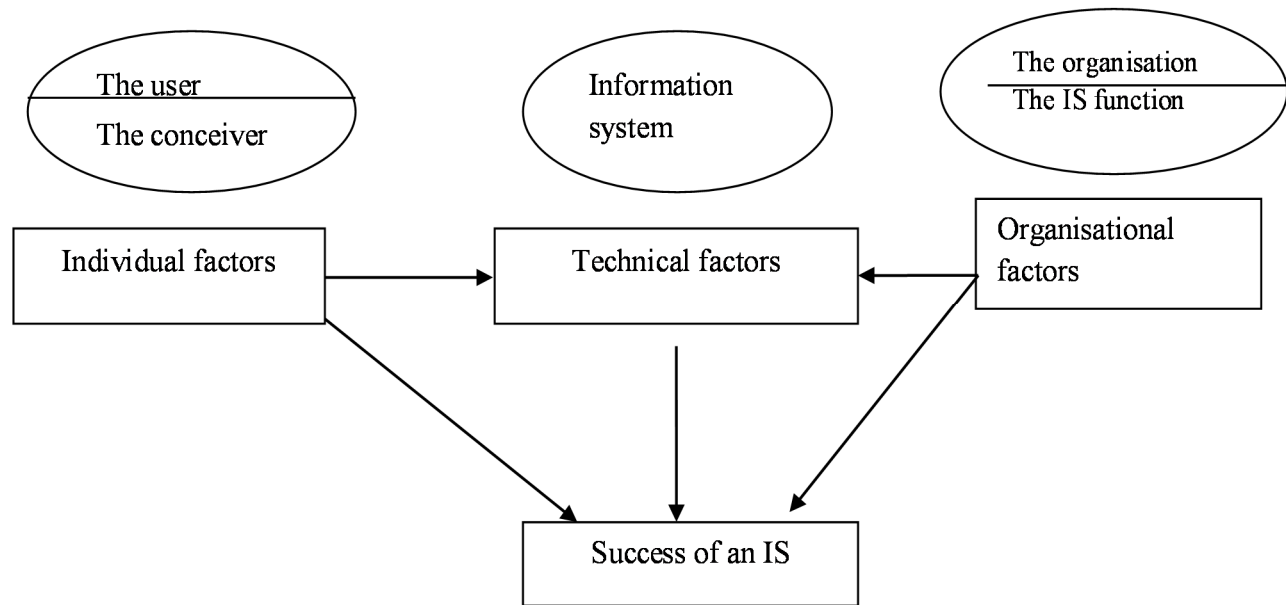


Figure 2. The global conceptual framework of the success factors of an IS. Source: Raymond (1984).

contingency theory and the systemic theory, it concerns the firm as a whole. At the level of accounting organization of the firm we identify important leverages such as differentiation of accounting, the specialization of the personnel in the accounting service, the use of accounting tools and the taking into account of non-financial information from the environment.

Informational factors: The informational or technical factors are from the sociotechnical school of thought and the development of structuration school of thought. They are concerned with technology, forms of integration and accounting methods and procedures. In this study, we have identified the following leverages: the computerisation of accounting, the use and mastery of appropriate accounting software, the appropriate computerization approach, the respect of accounting norms and procedures in the treatment of accounting statements, meetings and activity reports and the security of material.

Individual factors: The individual factors are derived from the behavioural contingency theory. They concern the structure and coordination mechanisms of the firm. It involves the behavior of individuals who work in groups and the mechanisms that are necessary to make the personnel adhere to the objectives of the firm. We have identified the educational level of the managing accounting team, the objective recruitment of employees, the style of leadership, the corporate culture, the precise formulation of objectives and remunerating on time. Hence, it is therefore possible to replicate the model by taking into account are empirical results (Figure 3).

CONCLUSIONS

The general question of this research is as follows: How does the differentiation and integration of the accounting information system react on the performance of industrial firms? In order to answer this question we proceeded in two stages:

First, we have identified the relation between the situations of differentiation /integration of accounting systems and the performance of the firm. Consequently, the results of our field survey show that:

- The differentiation of accounting enables to measure the contribution of each accounting function to the results and its support in decision making and managerial action.
- The integration of technology related to information indicates the fact that a firm is a sociotechnical system and modifies the organisational structure of the accounting department. This orientates the accounting agents towards a more active role in the decision making process.
- The organizational structure, the strategy and the coordination mechanisms adopted in the firm lead to understand that the firm is always in search of an organisational structure that ensures adaptation to the conditions of the environment.

Secondly, we validate the conceptual framework of the performance of accounting information systems in our study using the developments of Ives et al. (1980), and improved by Raymond (1984). The elements from our field study were used in elaborating a model of global

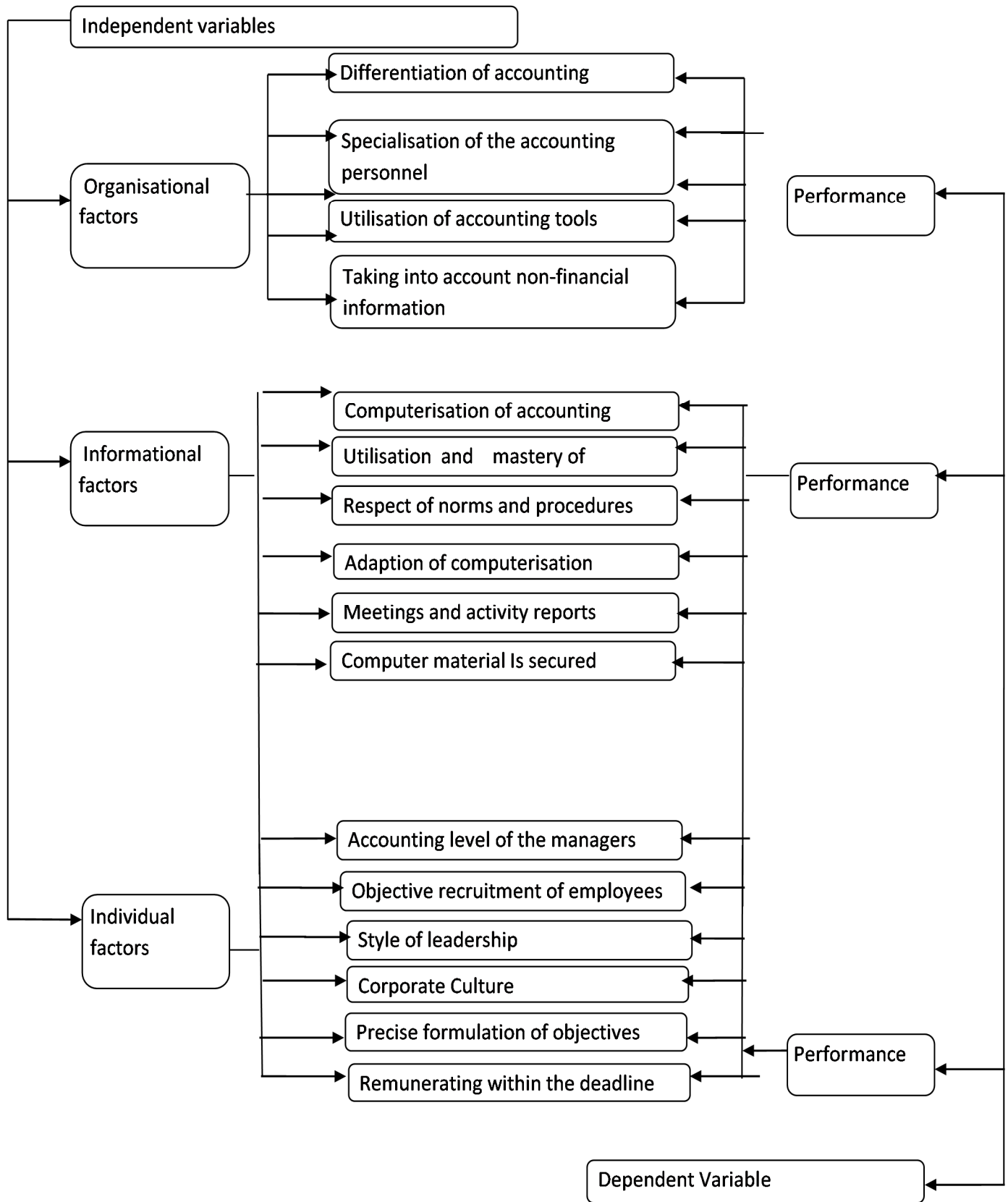


Figure 3. Replication of the model of Raymond in the Cameroon context (leverages of performance). Source: Authors.

performance of the accounting information system in the context of Cameroon.

The results obtained lead to the achievement of the objective of this study that was to verify if differentiation and integration of the accounting information systems studied have an effect on the observed overall performance of the firm.

Performance is imperative for all firms. For this performance to be effective, managers of firms have to put in place a quality accounting information system adapted to the contingencies of the enterprise that includes organizational and individual factors.

ACKNOWLEDGEMENTS

There are many people who contributed directly or indirectly in the accomplishment of this study. The authors sincerely apologise for any omission that might have occurred in the study. To start with, the authors would like to thank all institutions that provided information for the study. Special thanks go to colleagues for their comments and remarks which improved the quality of the research work.

REFERENCES

- Abdel-Kader, M., and Luther, R. (2008).** The impact of firm characteristics on management accounting practices: A UK-based empirical analysis. *British Accounting Review*, 40(1) : 2-27.
- Al Duais, (2013).** L'impact des technologies d'information et de communication sur la qualité du système d'information comptable: Cas des PME à la ville Ibb (Yémen), *International Journal of Innovation and Applied Studies*, 4(1) : 114-127. ISSN 2028-9324.
- Atangana, Y. V. M. (2016).** La production de l'information Comptable au sein des entreprises Camerounaises : ver l'urgence d'une réforme institutionnelle. *Revue de Management et de Stratégie*. 3(2): 48-77 www.revue.rms.fr, VA press.
- Beldi, A., Cheffi, W., and Wacheux, F. (2006).** L'utilisation de l'information comptable par les managers. Proposition d'une grille d'analyse fondée sur la théorie de la structuration ».
- Bharadwaj, A. S. (2000).** A resource-based perspective on information technology capability and firm performance: an empirical investigation. *Management Information System Quarterly*, 24(1) : 169-196.
- Bidan, M. (2003).** Vers une intégration du système d'information de gestion de l'entreprise de taille moyenne ?. Doctorat en sciences de gestion, université de Nantes.
- Blau, P.-M. (1970).** A formal theory of differentiation in organisation. *American Sociological Review*, 35(2) : 201-218.
- Bouquin, H. (2004).** Comptabilité de gestion. *Economica*, Paris.
- Bourguignon, A. (2000).** Performance et contrôle de gestion. *Encyclopédie de Comptabilité, Contrôle de gestion et Audit*, Ed. *Economica*, pp. 931-941.
- Bresnahan, T. F., Brynjolfsson, E., and Hitt, L. M. (2002).** Information technology, Workplace Organisation, and the Demand for skilled Labour: Firm-Level evidence. *Quarterly Journal of Economics*, 117, 339-376.
- Budiarto, D. S., Rahmawati, B., and Prabowo, M. A. (2019).** Accounting Information System and non Financial Performance in Small Firms: Empirical Research based on ethnicity. *Journal of International Studies*, 12(1), 338-351 doi: 10.14254/2071.8330. 2019/12-1/23
- Chapellier, P., and Mohammed, A. (2010).** Les pratiques comptables des dirigeants de PME Syriennes dans un contexte de libéralisation de l'économie. 31ème Congrès de l'Association Francophone de Comptabilité (AFC), Nice.
- Child, J., (1972).** Organisational structure, environment and performance-the role of strategic choice. *Sociology*, 6, p. 1-22.
- Chong, V. K., (1996).** Management accounting systems, task uncertainty and managerial performance: a research note. *Accounting Organizations and Society*, 21(5): 415-421.
- Combs, J. G., Ketchen, D., and Hoover, V. (2004b).** A strategic groups approach to the franchising performance relationship. *Journal of Business Venturing*, 19, 877-897.
- Combs, J. G., Michael, S., and Castrogiovanni, G. (2004a).** Franchising: A review and a venue to greater theoretical diversity. *Journal of Management*, 30, 907-931.
- Crozier, M., and Friedberg, E. (1977).** L'acteur et le système. Paris, Edition du seuil.
- Daft, R. L., Sormunen, J., and Parks, D. (1988).** Chief Executive Scanning, Environmental Characteristics, and Company Performance: An Empirical Study. *Strategic Management Journal*, 9(2): 123-139.
- Damanpour, F., and Gopalakrishnan S. (2001).** The Dynamics of the Adoption of Product and Process Innovations in Organizations. *Journal of Management Studies*, 38(1): 45-65.
- Davis, S., and Albright, T. (2000).** The changing organisational structure and individual responsibilities of managerial accountants: A case study. *Journal of Managerial Issues*, 12(4).
- Devaraj, S., and Kohli, R. (2003).** Performance impacts of information technology: Is Actual Usage the missing link. *Management Science*, 49(3): 273-289.
- Dhiba, Y., and El Hentati, A. A. (2018).** Theoretical Model for evaluating the contribution of information systems to organizational performance. *Revue du Contrôle de la Comptabilité et de l'audit*, 6, pp. 113-127.
- Eccles, R. G. (1999).** Le manifeste de l'évaluation des performances, in *Les systèmes de mesure de la performance*. Harvard Business Review, Éditions de l'Organisation, 2559 pages.
- Eisenhardt, K. M. (1989).** Building Theories from case study research. *Academy of Management Review*, 14(4): 532-550.
- El Orf L. (2012).** Différenciation et intégration des systèmes comptables : Une étude typologique. *Business administration*. Conservatoire national des arts et métiers - CNAM, French.
- El Orf L., and Tort, E. (2006).** Une synthèse des travaux sur les systèmes d'information comptables en France : état des lieux et pistes de recherche. *Association Francophone de Comptabilité*.
- Ganyam, A. I., and Ivungu, J. A. (2019).** Effect of Accounting Information System on the Financial performance of firms: A Review of Literature. *Journal of Business and Management*, 21(5): 39-49.
- Gerdin, J. (2005).** Management accounting system design in manufacturing departments: an empirical investigation using a multiple contingencies approach. *Accounting, Organization and Society*, 30, 99-126.
- Gerdin, J., and Greve, J. (2004).** Forms of contingency fit in management accounting research-a critical review. *Accounting Organizations and Society*, 29(3-4): 303-326.
- Ghorbel, J. (2012).** Le design du système d'information comptable dans les PMI tunisiennes : une modélisation contingente. *Congrès International et Francophone en Entrepreneuriat et PME*.
- Grande, E. U., Pérez Estébanez, R., and Muñoz Colomina, C. (2011).** The impact of Accounting Information Systems (AIS) on performance measures: empirical evidence in Spanish SMEs. *The International Journal of Digital Accounting Research*, 11, 25 – 43.
- Ismail, N. A., and King, M. (2005).** Firm performance and AIS alignment in Malaysian SMEs. *International Journal of Accounting Information Systems*, 6(4): 241-259.
- Ives, B., Hamilton, S., and Davis, G. B. (1980).** A framework for research in computer-based management information systems. *Management Science*, 26(9): 910-934.
- Kalika, P. (1988).** Structures d'entreprises: réalités, déterminants, performances. Volume 33 of *Collection Gestion, Série Politique générale, finance et marketing* · *Collection Gestion, Économica*.
- Kaplan, R. S., and Norton, D. P. (2001).** Comment utiliser le tableau de bord prospectif ? Pour créer une organisation orientée stratégie. Éditions d'organisation.

- Lacombe-Saboly M. (1994).** Les Déterminants de la Qualité des Produits Comptables des Entreprises : Le Rôle du Dirigeant. Thèse de Sciences de Gestion - Université de Poitiers.
- Lavigne, B., and St Pierre, J. (2002).** Association entre le système d'information comptable des PME et leur performance financière. 6^e Congrès international francophone sur la PME, Octobre 2002 - HEC - Montréal.
- Lawrence, P., and Lorsch, J. (1967).** Organizations and environment: Differentiation and Integration. Boston, Harvard University Press.
- Lebas, M. (1995).** Oui, il faut définir la performance. Revue française de comptabilité, Juillet-Août, pp 66-71.
- Myers, M. D., and Avison, D. (2002).** Qualitative Research in Information Systems» London: Sage, 312 pages.
- Naranjo-Gil, D. (2004).** The Role of Sophisticated Accounting System in Strategy Management. The International Journal of Digital Accounting Research, 4(8): 125-144.
- Nyenguè Edimo, P. (2007).** Structuration des activités de la fonction comptable : typologie des firmes camerounaises. in les cahiers électroniques de l'EERCI, cahier 25-2007 ; N°ISRN IAE 33/CRECCI-27-FR.
- Orpen, C. (1993).** Strategic planning, scanning activities and the financial performance of small firms, Journal of Small Business and Entrepreneurship, 11(1): 62-72.
- Pesqueux, Y. (1996).** La notion de la performance globale. pp.1-13.
- Rai, A., Patnayakuni, R., and Patnayakuni, N. (1996).** Refocusing where and how IT value is realised: An empirical investigation. Omega International Journal of Management Science, 24(4): 399-412.
- Raymond, L. (1984).** Une étude empirique des facteurs de succès d'un système d'information en contexte PME. Thesis presented at l'école des Hautes Études Commerciales, Montréal.
- Rosa, D., and Purfini, A. P. (2019).** Analysis of the effect of Accounting Information System to Support Company Performance. IOP Conference Series: Materials Science and Engineering. 662, 032015 doi:10.1088/1757-899X/662/3/03215.
- Sajady, H., Dastgir, M., and Hashem Nejad, H. (2008).** Evaluation of the effectiveness of accounting information systems. International Journal of Information Science & Technology, 6(2).
- Samara, T. (2004).** Multiplicity of users and the pertinence of multidimensional information systems: the example of the banking sector. Doctorate thesis in management science, CNAM.
- Steinbart, R. M. B., and Cushing, B. E. (1997).** Accounting Information System 9th Edition United States of America: Addition Wesley Publishing Co., 9, pp.23-90.
- Togodo, A. (2011).** Impact of contextual factors on the design of management control systems in Benin local governments: a contingency approach. PhD thesis in Economics and Management. HEC-Université de Liège.
- Tort, E. (2000).** Regard sur l'organisation des systèmes comptables des grandes entreprises en France. Revue Comptabilité Contrôle Audit, tome 6, vol 1, p 59 à 84, mars.
- Trist, E. L., Higgin, G. W., Murray, H., and Pollock, A. B. (1963).** Organizational Choice. Londres, Tavistock, 1963.
- Yin, R. (1989).** Case study research: design and method. Sage publication, inc.

Citation: Ombom, Y. N. M., and Chi, P. C. (2020). Accounting information system and performance of industrial firms in Douala, Cameroon. Net Journal of Social Sciences, 8(3): 52-63.
