Revue du Contrôle de la Comptabilité et de l'Audit
ISSN: 2550-469X
Volume 6 : Numéro 1

Activity-Based Costing and performance: empirical study in the context of Moroccan companies

Comptabilité par activités et performance: étude empirique dans le contexte des entreprises marocaines

Zouhair HAJJI
PhD in economics and management
National School of Commerce and Management of Fez
Sidi Mohamed Ben Abdellah University
Laboratory for Research and Studies in Management, Entrepreneurship and Finance (LAREMEF)
Morocco
Zouhair-hajji@outlook.fr

Outmane FARRAT
PhD student
National School of Commerce and Management of Fez
Sidi Mohamed Ben Abdellah University
Laboratory for Research and Studies in Management, Entrepreneurship and Finance (LAREMEF)
Morocco
Farratoutmane@yahoo.fr

Date submitted: 09/02/2022

Date of acceptance: 14/04/2022

To cite this article:

HAJJI. Z & FARRAT. O (2022) «Activity-Based Costing and performance: empirical study in the context of Moroccan companies», Revue du contrôle, de la comptabilité et de l'audit «Volume 6 : Numéro 1» pp : 240 - 260

Abstract

Following the evolution of companies' economic and organizational environment, the ability of traditional cost calculation systems to provide relevant information for decision-making has been questioned by the majority of researchers in management accounting. The work carried out in this context led to the proposal of a new method for calculating costs, namely: Activity-Based Costing. Since its appearance, many studies have been carried out on the theoretical foundations, the adoption determinants, the success factors of implementation and the impact of this method on companies' performance. Through this work, our objective is to take part in the work on the consequences of activity-based costing adoption on performance, in particular at the level of Moroccan companies. The results of our analysis based on a sample of 73 Moroccan companies indicate a positive and statistically significant association between activity-based costing and organizational objectives achievement in terms of cost reduction, product/services' quality improvement, production and delivery times reduction, guiding employee behavior and productivity growth.

Keywords: Activity-Based Costing ; performance ; companies ; Morocco ; empirical study.

Résumé

Suite à l'évolution de l'environnement économique et organisationnel des entreprises, la capacité des systèmes traditionnels de calcul des coûts à fournir une information pertinente pour la prise de décision a été mise en doute par la majorité des chercheurs en comptabilité de gestion. Les travaux réalisés dans ce cadre ont débouché sur la proposition d'une nouvelle méthode de calcul des coûts, à savoir: la comptabilité par activités. Depuis son apparition, de nombreuses études ont été effectuées sur les fondements théoriques, les déterminants d'adoption, les facteurs de succès de mise en œuvre et l'impact de cette méthode sur la performance des organisations. A travers ce travail, notre objectif est de prendre part aux travaux sur les conséquences de l'adoption de la comptabilité par activités sur la performance, en particulier au niveau des entreprises marocaines. Les résultats de notre analyse fondée sur un échantillon de 73 entreprises marocaines indiquent une association positive et statistiquement significative entre la comptabilité par activités et l'atteinte des objectifs organisationnels en matière de réduction des coûts, d'amélioration de la qualité des produits/ services, de réduction des délais de production et de livraison, d'orientation du comportement des employés et d'augmentation de la productivité.

Mots clés : Comptabilité par Activités ; performance ; entreprises ; Maroc ; étude empirique.

Introduction

The 1980s and the years that followed were marked by the questioning of certain management accounting methods traditionally used. Specialized literature and articles have multiplied to stigmatize the inadequacies, limitations and even the lack of relevance of a number of tools, particularly those relating to cost calculations. As a result of the changing economic and organizational environment of firms, the ability of traditional management accounting systems to provide relevant information for decision-making is being questioned by an increasing number of academics and practitioners. Kaplan and Johnson's book published in 1987 is undoubtedly one of the starting points for the official questioning of these methods. At the same time, in 1988, the work of a group of experts in management accounting systems of large multinational companies, consulting firms and academic world, gathered under the aegis of a consortium called CAM-I, has leaded to a new method of calculating costs, namely: activity-based costing.

According to its proponents, activity-based costing is designed to resolve the inefficiencies of traditional costing methods. It allows to obtain more relevant costs through a better allocation of indirect expenses and contributes to performance improvement.

The main contribution of activity-based costing is its ability to increase the quality of decisions that depend on the quality of the financial information used (Cooper and Kaplan, 1990). To achieve this, it first provides managers with more accurate information on costs, processes, products/services and customers; then, it models the work's organization and the company's economic activity so that managers can better understand the economic consequences of their decisions.

In an article published in 1988, Partridge and Perren highlighted several possible uses of activity-based costing to show the interest of this approach which goes beyond the purpose of calculating costs. Indeed, the information generated by this system can be used in the context of: chain-value analysis, identification of value-added activities/non-value-added activities, analysis of customers and products/services' profitability, product/market mix choice, subcontracting decisions, company restructuring, processes reengineering, product designs' choice, realization of budgets by activity and the management of performance.

For Cooper and Kaplan (1992), the ultimate objective of activity-based costing is not to calculate costs with precision but to contribute to improve firms' performance. Gunasekaran and al. (2000) point out that this method allows to reduce costs by eliminating activities with

low added value, improve products/services' quality, reduce production and delivery cycle, improve communication and to promote employee skills. According to Pizzini (2006), activity-based costing contributes to increase the profitability and competitiveness of companies and ultimately, shareholder value.

It is remarkable that the majority of researchers in management accounting affirm the use of activity-based costing as a performance's vector. However, the empirical studies carried out in this context are not very convincing, even contradictory (Bescos and Charaf, 2008). Actually, while some studies show positive and statistically significant effects of activity-based costing on business performance (Kennedy and Affleck-Graves, 2001; Bescos and Charaf, 2008; Elhamma, 2013; Maiga, 2014), others show no direct association, especially concerning the performance's financial elements (Ittner et al., 2002; Pokorna, 2016). These « contradictory » results complicates the understanding of the importance of this managerial practice in improving firms' performance for researchers and practitioners. Thus, to better explain this relationship, it's important to conduct more empirical work in this field.

Through this work, our objective is to take part in the work of the consequences of activity-based costing adoption on performance, in particular at the level of Moroccan companies. We will therefore try to answer the following question: does the adoption of activity-based costing contribute to improve performance in the context of Moroccan companies?

To answer this question, we will first present a literature review relating to our research question, then we will discuss our methodological choices and finally, we will present the results of our survey.

1. Literature review

Performance is an omnipresent notion in management science research. Despite the frequent use of this term, it is rarely explicitly defined (Bourguignon, 1997). It is a complex and multidimensional concept that operationalization is difficult (Raad, 2004). Moreover, there is no consensus on the definition of performance or on how to assess it. It's a polysemic or multifaceted word in management sciences and especially in the field of management control. In this context, Lebas (1995, p.67) emphasizes that « it's important to voluntarily formulate a definition of the word performance in order to specify its field and the creative process and to allow management control to stabilize its philosophy towards a concept of continuous progress and support for performance construction ».

Bouquin (2004, p.62), defines performance as « the impact that an activity, a responsibility's center, a product, etc., has on the company's global performance ». For him, performance is a process decomposed into three elements:

- Economy: is the act of buying resources at the lowest cost.
- Efficiency: consists of maximizing the products or services' quantity obtained from a quantity of resources.
- Effectiveness: consists in achieving the objectives pursued.

For Lorino (2003, p.11): « Firms' performance is all that, and only that, contributes to improve the value-cost couple, namely to improve the value's net creation (conversely, performance is not necessarily what contributes to reduce the cost or increase the value, individually, if this doesn't improve the value-cost balance or the value/cost ratio) ». For his part, Bourguignon (1997, p. 91) defines performance as « the achievement of organizational objectives, whatever the nature and variety of these objectives. This achievement can be understood in the strict sense (result, outcome) or in the broad sense of the process that leads to the result (action) ». In this research, we refer to this definition because it's considered by several researchers to be the most complete.

To clarify the nature of activity-based costing and performance relationship, we present above a review of the literature on studies carried out in this context.

In 2000, Zéghal and Bouchekoua examined the impact of modern control methods, such as just-in-time, total quality management and activity-based costing on the performance of American and Canadian companies. The results of this study reveal that, generally, these methods have a positive effect on the economic added value.

Kennedy and Affleck-Graves (2001) studied the link between the implementation of activity-based costing and the shareholder value's creation in industrial companies in the United Kingdom. The analysis of collected data allowed the authors to observe that the value of the companies' shares that have adopted activity-based costing is higher than companies that had not adopted it, and that this approach's positive effects are not immediate (it takes at least two years to manifest).

The study by Cagwin and Bouwman (2002) aimed to examine the impact of the activity-based costing's adoption on ROI (Return on Investment). To verify this relationship, the authors took into account other variables such as production process' complexity, cost structure, products' diversity, competition and use of other strategic initiatives. The results show that activity-based

costing has a positive and statistically significant effect on ROI in companies that have certain characteristics relating to the diversity of services offered, their cost structure and to their operations' complexity.

Ittner and al. (2002) examined the relationship between the adoption of activity-based costing and the operational and financial performance improvement of American industrial firms. Operational performance was measured by quality, production cycle time and cost reduction. Financial performance was measured by return on assets (ROA). The results of this study indicate that activity-based costing is indirectly associated with cost reduction through improving quality and production cycle time. On the other hand, it doesn't have a significant effect on the return on assets.

Banker and al. (2008) attempted to assess the effect of activity-based costing on the adoption of new production practices, on one hand, and on industrial performance on the other hand. Unlike previous studies that valued the direct impact of this method on performance, these authors proposed an alternative research model in which new production practices play a moderating role between activity-based costing and industrial performance. The results of this research reveal that there is no significant impact of activity-based costing on industrial performance, but an indirect relationship. They also indicate that new production practices play a moderating role in this relationship (production cycle time, quality, and unit cost reduction).

In a research published the same year, Bescos and Charaf (2008) attempted to highlight the consequences of activity-based costing on the organizations' non-financial performance through a field study carried out in 2007 at the Central Bank of Morocco (Bank Al-Maghrib). According to the results obtained, activity-based costing has enabled this bank to have a vision of the use of resources according to activities, to improve communication between the various departments, to facilitate the processes' reengineering, to increase the offered services' quality, to lead to a better analysis and costs' allocation, and finally to improve customer satisfaction.

The study of Zhang and Isa (2011) aimed to examine the impact of the successful implementation of activity-based costing on organizational performance. This performance was measured by the achievement of set targets such as productivity, cost, quality, delivery, service, sales volume, market share and profit targets. Four perspectives have been retained for measuring the success of the implementation of activity-based costing, namely: the users' attitude, the technical characteristics evaluation, the usefulness of improving the users' performance and the impact on the organizational process. The results of this study show a

positive and significant association between the successful implementation of activity-based costing and the achievement of all the organizational objectives examined, except for the market share growth objective for which this association is not significant.

Based on a survey of 62 companies based in Morocco, the study by Elhamma (2013) aimed to enlighten the relationship between the adoption of activity-based costing and firms' performance. Performance was measured by three dimensions: competitiveness, profitability and productivity. The survey results revealed that activity-based costing contributes more than traditional methods to improve firms' performance.

Maiga and al. (2014) examined the interaction effect of costing systems (including activity-based costing) and information technology on financial performance. Financial performance was measured by asking respondents to indicate, on a Likert scale, how the company's profitability has changed relative to major competitors over the past five years. The study results reveal that even if information technologies and costing systems don't produce a significant effect on companies' financial performance independently, these ones interact to positively affect this performance.

The study by Pokorna (2016) aimed to analyze the influence of activity-based costing on return on assets (ROA). This study results were surprising, since companies that adopted activity-based costing recorded lower performance compared to other companies.

Albalaki and al. (2018) tested, on the one hand, the link between competitive strategies (cost reduction and differentiation), activity-based costing implementation and organizational performance, and on the other hand, the moderating effect of activity-based costing on the relationship between competitive strategies and organizational performance. Organizational performance was measured by eight elements to assess both financial (profitability, turnover, ROI, operational efficiency) and non-financial performance (market share, customer loyalty, employee satisfaction and research and development activities). The survey results show, on one side, a positive and significant relationship between the implementation of activity-based costing and organizational performance, and on the other side, activity-based costing plays a moderating role in the relationship between competitive strategies and organizational performance.

Based on the studies presented above, we therefore formulate the following hypothesis:

H: activity-based costing affects positively and significantly the performance of Moroccan companies.

2. Research methodology

In this paragraph, we will first present the method of data collection, then we will proceed to the measurement of the variables of our study.

2.1. Data collection

In order to carry out our study, a quantitative survey by questionnaire was conducted among SMEs and large Moroccan companies belonging to industry, commerce and services sectors. These companies were selected using purposive and convenience sampling methods. Data collection extended from September 2019 to October 2020. During this period, we contacted several companies, but in the end, only 73 responded favorably to our request. Questionnaires were completed face-to-face and electronically by management controllers, financial directors, accountants and other types of managers.

2.2. Measurement of variables

2.2.1. Independent variable : « adoption or non-adoption of activity-based costing »

To measure the variable « adoption or non-adoption of activity-based costing », we used the measurement scale of Bescos and al. (2002) taken up by Pierce and Brown (2004) and Rahmouni (2008). Thus, two situations have been retained: adoption or non-adoption of activity-based costing. Therefore, the answers to this question lead to a dichotomous variable (yes/no).

2.2.2. Dependent variable : « performance »

To measure the « performance » variable, we built on the measurement scale of Mia and Clarke (1999) taken up by Zhang and Isa (2011). Companies' performance was therefore measured relative to the achievement of organizational objectives in terms of: (1) cost reduction, (2) products/services' quality improvement, (3) production and delivery times reduction, (4) employee behavior orientation, (5) productivity growth, (6) sales volume growth, (6) market share growth and (7) profits growth. The advantage of this "broad" measure compared to other measures which are essentially based on financial ratios (such as profitability ratios), is that it integrates all aspects (quantitative and qualitative, financial and non-financial) of performance in evaluation (Mia and Clark, 1999).

In order to collect performance information, respondents were asked to indicate on a five-point scale, to what extent the implemented cost calculation system enabled the company to achieve organizational objectives set.

3. Research Results

Analysis of the data collected shows that only 15.1% of Moroccan companies adopt activity-based costing. Compared to previous studies, this rate is lower than that found in 2010 by Charaf and Bescos (22.6%), but higher than the rate indicated in 2013 by Elhamma (12.9%). Companies that have adopted activity-based costing consist of SMEs (36.4%) and large companies (63.6%). They are divided between industrial (63.6%), commercial (9.1%) and services sectors (27.3%).

In this study, our objective is to verify the links that may exist between activity-based costing and companies' performance. For this, we carried out, on the one hand, a comparison of perceived organizational performance before and after the adoption of activity-based costing at the level of companies that use this method (Wilcoxon test) and, on the other hand, a comparison of perceived organizational performance between companies adopting and those not adopting activity-based costing (the Mann-Whitney test and the median test).

3.1. Comparison of perceived organizational performance before and after the adoption of activity-based costing:

Table 1: Wilcoxon Rank Test

Rank				
		N	**Average rank**	**∑ of ranks**
Cost reduction	Negative rank	1[a]	**4,00**	4,00
	Positive rank	9[b]	**5,67**	51,00
	Ex aequo	1[c]		
	Total	11		
Product/services' quality improvement	Negative rank	0[d]	**0,00**	0,00
	Positive rank	11[e]	**6,00**	66,00
	Ex aequo	0[f]		
	Total	11		
Production and delivery times reduction	Negative rank	2[g]	**3,50**	7,00
	Positive rank	7[h]	**5,43**	38,00
	Ex aequo	2[i]		
	Total	11		
Employee behavior orientation	Negative rank	0[j]	**0,00**	0,00
	Positive rank	8[k]	**4,50**	36,00
	Ex aequo	3[l]		
	Total	11		
Productivity growth	Negative rank	0[m]	**0,00**	0,00
	Negative rank	7[n]	**4,00**	28,00

	Ex aequo	4[o]		
	Total	11		
Sales volume growth	Negative rank	2[p]	**3,00**	6,00
	Positive rank	6[q]	**5,00**	30,00
	Ex aequo	3[r]		
	Total	11		
Market share growth	Negative rank	3[s]	**4,00**	12,00
	Positive rank	6[t]	**5,50**	33,00
	Ex aequo	2[u]		
	Total	11		
Profits growth	Negative rank	2[v]	**2,50**	5,00
	Positive rank	5[w]	**4,60**	23,00
	Ex aequo	4[x]		
	Total	11		

Source: Authors via SPSS

a, d, g, j, m, p, s et v: activity-based costing < traditional costing methods
b, e, h, k, n, q, t et w : activity-based costing > traditional costing methods
c, f, i, l, o, r, u et x : activity-based costing = traditional costing methods

The analysis results of the costing systems use's impact on performance appear in the fourth column of Table 1 above. According to this analysis, the highest ranks are associated with the use of activity-based costing. This difference is statistically significant for the following performance aspects: « cost reduction », « product/service quality improvement », « employee behavior orientation » and « productivity growth » whose significance is less than 5%.

The last line of Table 2 below presents the exact meaning of all the performance elements retained.

Table 2: Statistical tests [a]

	Cost reduction	Product/services' quality improvement	Production and delivery times reduction	Employee behavior orientation	Productivity growth	Sales volume growth	Market share growth	Profits growth
Z	-2,495[b]	-3,025[b]	-1,897[b]	-2,598[b]	-2,646[b]	-1,725[b]	-1,311[b]	-1,561[b]
Asymptotic significance (two-sided)	**0,013****	**0,002***	0,058	**0,009***	**0,008***	0,084	0,190	0,119

Source: Authors via SPSS

a. Wilcoxon Rank Test

b. Based on negative ranks.

Significance threshold: * = threshold at 0.01; ** = threshold at 0.05

3.2.Comparison of perceived organizational performance between adopters and non-adopters of activity-based costing.

3.2.1. Mann–Whitney test

Table 3: Rank statistics

Costing system effect on the following aspects	Activity-based costing status[a]	N	Average rank	∑ of ranks
Cost reduction	0	60	**33,30**	1998,00
	1	11	**50,73**	558,00
	Total	71		
Product/services' quality improvement	0	58	**31,49**	1826,50
	1	11	**53,50**	588,50
	Total	69		
Production and delivery times reduction	0	53	**30,45**	1614,00
	1	11	**42,36**	466,00
	Total	64		
Employee behavior orientation	0	58	**31,87**	1848,50
	1	11	**51,50**	566,50
	Total	69		
Productivity growth	0	61	**33,99**	2073,50
	1	11	**50,41**	554,50
	Total	72		
Sales volume growth	0	58	**33,55**	1946,00
	1	11	**42,64**	469,00
	Total	69		
Market share growth	0	57	**33,28**	1897,00
	1	11	**40,82**	449,00
	Total	68		
Profits growth	0	61	**34,86**	2126,50
	1	11	**45,59**	501,50
	Total	72		

Source: Authors via SPSS

a. Activity-based costing status: 0 = no; 1 = yes

The average ranks of the costing systems impact on performance appear in the fourth column of Table 3. According to this analysis, the highest ranks are associated with companies that have adopted activity-based costing. This difference is statistically significant for the majority of the performance elements with except for « sales volumes growth », « market share growth » and « profits growth» whose significance is greater than 5%.

According to the last row of Table 4 below, activity-based costing has a greater effect than other traditional costing methods on the following aspects: « cost reduction », « Product/services' quality improvement», « production and delivery times reduction », « employee behavior orientation » and « productivity growth ».

Table 4: Statistical tests [a]

	Cost reduction	Product/services' quality improvement	Production and delivery times reduction	Employee behavior orientation	Productivity growth	Sales volume growth	Market share growth	Profits growth
U of Mann-Whitney	168,000	115,500	183,000	137,500	182,500	235,000	244,000	235,500
W of Wilcoxon	1998,000	1826,500	1614,000	1848,500	2073,500	1946,000	1897,000	2126,500
Z	-2,834	-3,635	-2,067	-3,143	-2,503	-1,493	-1,294	-1,685
Asymptotic significance (two-sided)	**0,005***	**0,000***	**0,039****	**0,002***	**0,012****	0,135	0,196	0,092

Source: Authors via SPSS

a. Grouping criterion: Activity-based costing status
Significance level: * = level at 0,01; ** = level at 0,05

3.2.2. Median test

Table 5: Number of observations below and above or equal to the according to the adoption or not of activity-based costing

		Activity-based costing status			
		No (0)		Yes (1)	
		N	%	N	%
Cost reduction	> Median	15	**25%**	7	**63,63%**
	≤ Median	45	**75%**	4	**36,37%**
Product/services' quality improvement	> Median	9	**15,52%**	8	**72,73%**
	≤ Median	49	**84,48%**	3	**27,27%**
Production and delivery times reduction	> Median	14	**26,42%**	7	**63,63%**
	≤ Median	39	**73,58%**	4	**36,37%**
Employee behavior orientation	> Median	4	**6,9%**	4	**36,37%**
	≤ Median	54	**93,1%**	7	**63,63%**
Productivity growth	> Median	24	**39,34%**	9	**81,82%**
	≤ Median	37	**60,66%**	2	**18,18%**
Sales volume growth	> Median	8	**13,79%**	4	**36,37%**
	≤ Median	50	**86,21%**	7	**63,63%**
Market share growth	> Median	20	**35,09%**	6	**54,55%**
	≤ Median	37	**64,91%**	5	**45,45%**
Profits growth	> Median	9	**14,75%**	4	**36,37%**
	≤ Median	52	**85,25%**	7	**63,63%**

Source: Authors via SPSS

The fourth and sixth columns of Table 5 above provide information on the consequences of cost calculation systems on the retained performance aspects. The results of this analysis show that the proportion of companies that use activity-based costing (which is above the median) is higher than that of other companies.

According to Table 6 below, this median difference is statistically significant for the following performance elements: "cost reduction", "product/service quality improvement", "production and delivery times reduction ", "guiding employee behavior" and "productivity growth".

Table 6: Statistical tests

		Cost reduction	Product/services' quality improvement	Production and delivery times reduction	Employee behavior orientation	Productivity growth	Sales volume growth	Market share growth	Profits growth
N		71	69	64	69	72	69	68	72
Median		3,00	3,00	3,00	4,00	3,00	3,00	2,00	3,00
Khi-2		6,489	16,299	5,725	7,833	6,772	3,279	1,478	2,941
df		1	1	1	1	1	1	1	1
Asymptotic signification		**0,011****	**0,000***	**0,017****	**0,005***	**0,009***	0,070	0,224	0,086
Correction for Yates continuity	**Khi-2**	4,808	13,363	4,161	5,222	5,169	1,896	0,769	1,622
	df	1	1	1	1	1	1	1	1
	Asymptotic signification	**0,028****	**0,000***	**0,041****	**0,022****	**0,023****	0,169	0,380	0,197

Source: Authors via SPSS

a. Grouping criterion: Activity-based costing status

Significance threshold: * = threshold at 0.01; ** = threshold at 0.05

From the results above, we can say that activity-based costing has enabled Moroccan companies to (1) reduce costs; (2) improve the products/services' quality; (3) reduce production and delivery times; (4) guide employee behavior and finally (5) increase productivity. On the other hand, the adoption of this method doesn't have a significant effect on (1) sales volumes, (2) market share and (3) profits growth.

Ultimately, the research results confirm, in general, the hypothesis that the adoption of activity-based costing positively affects companies' performance. In particular, these results indicate that activity-based costing affects positively and significantly only the achievement of the objective related to cost, quality, deadlines, productivity and employee behavior orientation.

These results contradict the conclusions drawn by Zéghal and Bouchekoua (2000), Kennedy and Affleck-Graves (2001) Cagwin and Bouwman (2002) and Maiga and al. (2014). For these authors, there is a direct relationship between the adoption of activity-based costing and financial performance improvement. On the other side, our results are consistent with the conclusions of Ittner and al. (2002), Banker and al. (2008), Bescos and Charaf (2008), Zhang and Isa (2011) and Pokorna (2016) according to which activity-based costing doesn't have a direct effect on financial performance, but indirectly through operational performance improvement.

Conclusion

The objective of this research was to enrich the debate on the consequences of adopting activity-based costing on companies' performance. On one hand, this study is one of the few contributions made in the Moroccan context. Through a questionnaire survey carried out among 73 Moroccan companies, the results of the statistical tests show a positive and significant relationship between the use of activity-based costing and the achievement of organizational objectives in terms of cost reduction, products/services' quality improvement, production and delivery times reduction, employee behavior orientation and productivity growth. On the other hand, although activity-based costing has a positive effect on the achievement of organizational objectives in terms of increasing sales volume, market share and profits, it is not statistically significant.

However, the generalization of the results presented must be considered with great caution in view of the limits of our research. Two major limitations should be mentioned: the modest size of the sample and the use of a perceptual approach to collect the data.

It's also important to point out that our approach is reductive relative to reality. Actually, as part of this study, we have only examined the links which could exist between activity-based costing and companies' performance without taking into account the specificity of each company and the complexity of the systems put in place. In addition, we didn't take into consideration other variables that are likely to influence the relationship studied, due to the difficulty of measuring these variables and to the size of our sample.

By reason of the limitations cited, this study paves the way for further research, in particular intervention research and in-depth case studies, which appear particularly promising to better understanding the effects, sometimes complex to seize, of activity-based costing on companies' performance.

REFERENCES

Alazard C., Sépari S., (2010), « Contrôle de gestion, manuel et application », Edition Dunod, Paris.

Albalaki F. M. M., Abdullah Z., Kamardin H., (2018), « The Link between Competitive Strategies, Activity based Costing Implementation and Organizational Performance », International Journal of Business and Management Invention (IJBMI), Vol. 7, N° 2, pp. 59-68.

Alcouffe, S., Boitier, M., Rivière, A., Villesèque-Dubus, F. (2013), « Contrôle de gestion sur mesure : Industrie, grande distribution, banque, secteur public, culture ». Dunod, Paris.

Banker R. D., Bardhan I. R., Chen T. Y., (2008), « The role of manufacturing practices in mediating the impact of activity-based costing on plant performance », Accounting Organizations and Society, Vol. 33, N° 1, Janvier, pp. 1-19.

Berliner, C., Brimson, J. A., (1988), « Cost management for today's advanced manufacturing: The CAM-I conceptual design », Harvard Business Review Press, Boston.

Bescos P.-L., Charaf K., (2008), « Impact de la comptabilité par les activités sur les performances des entreprises : Le cas de la Banque Centrale du Maroc », Communication présentée au 29ème Congrès de l'AFC, Mai, ESSEC, Cergy-Pontoise.

Bescos P.-L., Cauvin E., Gosselin M., (2002), « La comptabilité par activités et la gestion des activités : comparaison entre le Canada et la France », Comptabilité - Contrôle - Audit, Numéro spécial, Mai, pp. 209-227.

Bescos P.-L., Mendoza C., (1994), « Le management de la performance », Editions Comptables Malesherbes, Paris.

Bouquin H., (1993), « Comptabilité de gestion », Sirey, Paris.

Bouquin H., (2004), « Le contrôle de gestion », 6ème édition, PUF, Paris.

Bourguignon A., (1997), « sous les pavés, la plage… ou les multiples fonctions du vocabulaire comptable : exemple la performance », Comptabilité-Contrôle-Audit, Vol. , Mars, p.89-101.

Cagwin D., Bouwan M. J., (2002), « The association between activity-based costing and improvement in financial performance », Management Accounting Research, Vol. 13, N° 1, pp. 1-39.

Charaf K., Bescos P.-L., (2010), « La méthode ABC séduit-elle les entreprises marocaines ? », Echanges, Novembre, pp. 32-33.

Cooper R., Kaplan R. S., (1990), « Measure costs right: make the right decision », The CPA Journal, Vol. 60, N° 2, pp. 38-45.

Cooper R., Kaplan R. S., (1992), « Activity-Based Systems: Measuring the Costs of Resource Usage », Accounting Horizons, September, pp. 1-13.

Elhamma, A., (2013), « Performance de la comptabilité par activités », Revue des Sciences de Gestion, Vol. 5, pp. 227-232.

Gervais M., (2009), « Contrôle de gestion », 9ème édition, Economica, Paris.

Godowski C., (2001), « La dynamique d'assimilation des innovations managériales. Le cas des approches par activités dans la banque », Thèse de Doctorat, Université d'Aix-Marseille.

Gunasekaran A., McNil R., Singh D., (2000), « Activity-Based Management in small company: a case study », Production Planning and Control, Vol. 11, N° 4, p. 391-399.

Ittner C. D., Lanen W. N., Larcker D. F., (2002), « The association between activity-based costing and manufacturing performance », Journal of Accounting Research, Vol. 40, N° 3, pp. 711-726.

Johnson H. T., Kaplan R. S., (1987), « Relevance lost: the rise and fall of management accounting », Harvard Business School Press, Boston.

Kennedy T., Affleck-Graves J., (2001), « The impact of activity-based costing techniques on firm performance », Journal of Management Accounting Research, Vol. 13, N° 1, pp. 19-45.

Lebas M., (1991), « Comptabilité analytique basée sur les activités, analyse et gestion des activités », Revue Française de Comptabilité, Vol. 226, Septembre, pp. 47-63.

Lebas M., (1995), « Oui, il faut définir la performance », Revue Française de Comptabilité, juillet- août, pp. 66-71.

Lorino P., (2003), « Méthodes et pratiques de la performance », 3ème édition, Éditions d'Organisation, Paris.

Maiga A. S., Nilsson A., Jacobs F. A., (2014), « Assessing the interaction effect of cost control systems and information technology integration on manufacturing plant financial performance », The British Accounting Review, Vol. 46, N° 1, pp. 77-90.

Mia L., Clarke B., (1999), « Market competition, management accounting systems and business unit performance », Management Accounting Research, Vol. 10, N° 2, pp. 137-158.

Partridge M., Perren L., (1998), « An integrated framework for activity-based decision making», Management Decision, Vol. 36, N° 9, pp. 580-588.

Pierce B., Brown R., (2004), « An empirical study of activity-based systems in Ireland », The Irish Accounting Review, Vol. 11, N° 1, p. 33-55.

Pizzini M. J., (2006), « The relation between cost-system design, managers' evaluations of the relevance and usefulness of cost data, and financial performance: an empirical study of US hospitals », Accounting Organizations and Society, Vol. 31, N° 2, pp. 179-210.

Pokorna, J., (2016), « Impact of activity-Based costing on financial performance in the Czech Republic », Acta Universitatis agriculturae & silviculturae mendelianae brunensis, Vol. 64, N° 2, pp. 643-652.

Raad G., (2004), « Quels liens entre la gestion des ressources humaines et la performance organisationnelle ? Le cas de l'actionnariat salarié », Acte du Congrès de l'Association Francophone de Gestion des Ressources Humaines, Vol. 1, p. 20.

Rahmouni A. F., (2008), « La mise en œuvre de la comptabilité par activités dans les entreprises françaises », Thèse de doctorat, Université du Sud Toulon-VAR.

Turney P. B. B., (1991), « Common cents: The ABC performance breacktrough », Hillsboro: cost Technology.

Schoch, H. P., Lee, M. H., Ang, K. B. (1994), « Activity-based costing in the electronic industry: The Singapour experience », Journal of small business and entrepreneurship, Vol. 11, N° 2, pp. 28-37.

Zéghal D, Bouchekoua M., (2000), « L'analyse de l'effet de l'adoption des méthodes modernes de contrôle sur la valeur économique ajoutée (VEA) », Comptabilité-Contrôle-Audit, Vol. 6, N° 1, pp. 47-58.

Zhang Y. F., Isa C., (2011), « The effect of activity-based costing on firms' performance: A study among Chinese manufacturing firms », Australian Journal of Basic Applied Science, Vol. 5, N° 9, pp. 227-237.