Prospects of Implementation the ABC Method as a Management Accounting Tool in Algerian Companies

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Abstract: The study aims to know the prospects for applying the Activity-based costing method in Algerian companies by studying the incentives, benefits and limitations of the method in the Algerian environment. The results of the study revealed the difficulty of mainstreaming the implementation of the Activity-based costing method in Algerian companies due to its high cost and the weakness of the professional and scientific competence necessary for its application.

Keywords: ABC method; Algerian companies; Implementation; Prospects.

1. Introduction

The board of directors of companies bases their decision-making on the data of the approved cost accounting system, as it classifies the direct and indirect costs of the production process based on accounting books and quantitative distribution keys. However, adopting traditional cost accounting may not be sufficient due to the globalization of competition for goods and services and technological development. There is a constant need to improve operations and increase their efficiency and effectiveness through optimal exploitation of resources. Traditional cost accounting may end up neglecting control over a portion of indirect costs or access to incorrect production costs.

In the 1987s, the United States of America witnessed the first signs of a revival of the importance of cost accounting, with Robert Cooper and Robert Kaplan highlighting the Activity-based costing method as a modern tool for solving traditional analytical accounting problems and accurately determining product costs. Much of the financial and accounting literature attributed the validity of Decision making requires objective cost allocation based on activities and cost drivers, which represents the most important addition in the Activity-based costing method.

1.1. Study Problematic

From the above, the main problematic of our study can be presented as follows:

What are the prospects for implementation the Activity-based costing method in Algerian companies?

From this arise a certain number of questions, which will constitute the path of our study:

- What are the incentives for implementation the Activity-based costing method in Algerian companies?
- What are the limitations of Activity-based costing method in Algerian companies?
- What are the benefits of implementation the Activity-based costing method in Algerian companies?

1.2. Study Hypotheses

The answer to the questions leads us to the formulation of three hypotheses:

- Hyp.1: Competitive advantage represents the most important incentive for implementation the Activity-based costing method in Algerian companies.
- Hyp.2: Cost represents the most important limitation of implementation the Activity-based costing method in Algerian companies.
- Hyp.3: Accuracy in calculating costs represents the most important benefit of implementation the Activity-based costing method in Algerian companies.

1.3. Study Methodology

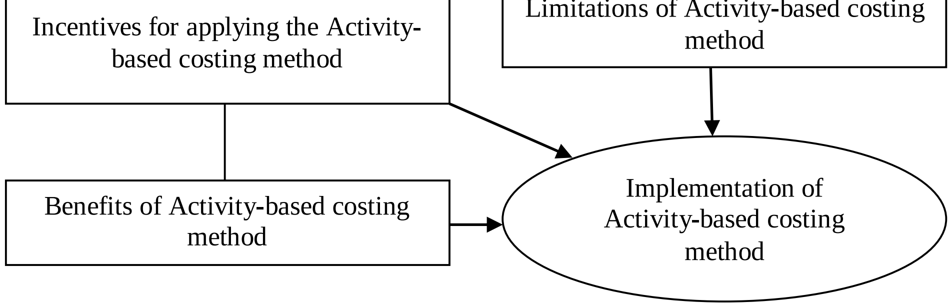
In line with the nature of the topic and the main problematic, the descriptive and analytical methodology was adopted in the theoretical part, and the qualitative study carried out on a sample of 12 interviewees, and by referring to the results of the survey, we will be led to verify our initial hypotheses, and make the desired recommendations.

The study aims to know the prospects for applying the Activity-based costing method in Algerian companies by studying the incentives, benefits and limitations of the method in the Algerian environment.

The results of the study revealed the difficulty of mainstreaming the implementation of the Activity-based costing method in Algerian companies due to its high cost and the weakness of the professional and scientific competence necessary for its application.

The conceptual model shown for the study was used in the following figure:

Fig. 1. Conceptual model of study



Source**:** Prepared by the researchers

2. Concept of Activity-based costing method

Activity-based costing is a modern system that appeared in the 1980s in the United States of America to address the shortcomings of traditional systems, as it depends on dividing the organization into activities that consume indirect costs.

The Activity-based costing method is based on four basic concepts as follows:

- Indirect costs: They represent the burdens that must be allocated for activities, as they represent the basis for pricing goods and services by companies.
- Cost object: represents the goods and services offered in the market by companies.
- Cost drivers: are responsible for the costs of activities.
- Activities: represent a group of actions and tasks that aim to accurately determine the value of a product or commodity.

Through the basic concepts of the activity-based costing method, it is clear that it is a system concerned with loading resources into goods and services based on activities, taking into account the cost drivers responsible for the occurrence of these activities.

There is no doubt that the current business environment requires companies to produce high-quality products at the lowest possible cost. The Activity-based costing method provides accuracy in determining the cost price through efficiency and rational use of resources, while ensuring its compatibility with the objectives (strategic decisions) related to pricing, production and market (Edward, David, & Gary, 2010), from through four steps as follows:

Table. 1. Steps to apply Activity-based costing method

Steps	Activity-based costing method
The first step	Identify the activities: At this stage, the organization is divided into activities, which requires understanding all the company's activities, considering the activities are the reason for creating indirect costs.
The second step	Grouping activities that share a cost driver: Allocate the cost of resources consumed to each activity, and determine its cost driver.
The third step	Determine the appropriate cost drivers: Determine the value of the cost driver, as it must be measurable and interpretable, in addition to easy access to data related to the size of the cost driver.
The fourth step	Allocation of activities costs to products: The costs of the activity centers are charged to products and services depending on the appropriate cost drivers.

Source: (Jalfan & Hasson, 2023)

3. Benefits of applying the Activity-based costing method

According to (Lere, 2000), the Activity-based costing method plays an important role in the field of industrial marketing through three considerations: first, identifying and controlling the specifications of goods and services and giving a prior estimate in the negotiation aspect, second, giving a competitive advantage by controlling the costs included in the product, and finally gaining customer satisfaction from Through the efficiency of pricing estimates.

Compared to traditional methods, the Activity-based costing method has made companies in various fields more accurate and more efficient, by influencing profitability and providing a more accurate view on goods and services. If the goal of financial information is to know the company's overall position, then the goal of non-financial information derived from the Activity-based costing method is a purely analytical goal by distinguishing between value-added activities and non-value-added activities. (Stapleton, Pati, Beach, & Julmanichoti, 2004)

According to (Bogdanoiu, 2009), the Activity-based costing method provides more accurate outputs about the cost of goods and services, which serves senior management in developing its strategy regarding pricing estimates and the mix of products offered in the market. The Activity-based costing method also serves the balanced scorecard in companies.

According to (Chea, 2011,9), under the Activity-based costing method the information necessary for the investment process and operational decisions can be provided for both industrial and financial companies alike.

Due to the accelerating pace of competition in the market, controlling costs means controlling the market, as production functions are considered a strategic issue to create competitive advantage through analyzing the least cost and value-added activities (Tran & Tran, 2022).

4. Limitations of applying the Activity-based costing method

Many studies have focused on the obstacles and limitations of applying the activity-based costing method in economic companies in order to understand ways to develop and improve the method. By studying and analyzing the most important scientific articles shown in the following table, we can extract the most important limitations.

Table . 2. The limitations of Activity-based costing method

Study by	The limitations
(Stapleton, Pati, Beach, & Julmanichoti, 2004)	It is considered an expensive method and is not considered suitable for all types of companies due to the varying levels of indirect costs, as the benefits of the method are linked to the organization's readiness to apply it.
(Bruggeman, Everaert, & Levant, 2005)	Lack of certainty about their quality in some complex systems, and difficulty in accurately determining the costs of activities.
(Kaplan & Steven R, 2007)	Incompatibility with the American accounting standards "US GAAP" and the method is not subject in some cases to objectivity in measurement, and the method did not witness great popularity in application after its appearance despite the benefit it provides.
(Chea, 2011)	Implementing the method is considered expensive and often takes a lot of time. Activity-based costing method systems may be characterized by complexity in some companies, which affects decision-making processes at the senior management level. The effectiveness of the method also requires a desire for change within the company.
(Mahal & Hossain, 2015)	Reviewing and updating the method is expensive, in addition to the complexity of the process of collecting and analyzing the necessary data. It can also negatively affect the workflow due to employee resistance, as they tend to use traditional methods due to their ease.

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(Shihab & Sivaram, 2017)	Weakness in the outputs of the activity-based costing method and poor comparison between companies in the absence of a unified conceptual framework, in addition to doubts about the benefits provided in small companies, which may result in wrong decisions.

Source: Prepared by the researchers

From Table.2, the studies share that the degree of complexity and high cost are among the most important limitations of applying the activity-based costing method, in addition to the lack of great popularity of the method among companies in various sectors.

(SALAWU & AYOOLA, 2012) believe that companies with a variety of products seek to apply the Activity-based costing method instead of traditional methods, due to the need to calculate the cost price and estimate the cost of various products more accurately.

Direct costs differ from indirect costs in that they are able to be charged directly to the product in the production process. Production costs also often represent a large proportion of the companies' total costs, which confirms the role of the Activity-based costing method in determining the cost price accurately. (Almeida & Cunha, 2017) confirmed that Companies with a high proportion of indirect costs apply the Activity-based costing method which helps in controlling costs better than traditional accounting methods.

The processes of launching new products or services in the market or ending the marketing of other products or services are among the important decisions within companies (Almeida & Cunha, 2017), taking into account the cost and benefit factor, as the cost factor is considered among the reasons for the variation in the application of the Activity-based costing method in companies. Many researchers and theorists agree on the necessity of Achieving returns as a result of applying the Activity-based costing method, in addition to achieving customer satisfaction as a basic condition for the company's continuity and growth.

5. Methods and Materials

The study was designed on the basis of knowing the prospects for applying the Activity-based costing method in Algerian companies (benefits, limitations, incentives) by collecting the opinion of professionals in accounting and finance, as accounting is considered the most important pillar of management and control in any company due to its reliability.

This study is therefore part of a qualitative approach based on direct and semi-direct individual interviews with accounting and financial professionals.

Thus, in order to collect the data necessary for our study, we used interviews with our interlocutors. The interview used constitutes an important means of communication.

The interviews were conducted during December 2023. They lasted 30 to 35 minutes depending on the interviewees. A pre-test was conducted with two individuals.

The information collected in the theoretical part of the study allowed us to formulate questions about the salient aspects of the application of the Activity-based costing method.

6. Results and Discussion

The research results are presented according to the sub-themes discussed with the interviewees.

To answer the first question, Table 3 presents the incentives for applying the Activity-based costing method obtained through the interview.

Table. 3. Incentives of Activity-based costing in Algerian companies

Conditions motivating the application of Activity-based costing	Algerian companies			
	yes		no	
	n_i	%	n_i	%
The pace of competition	4	33,33	8	66,67
Diversity of products	11	91,67	1	8,33
High ratio of indirect costs	12	100	0	0
Awareness and perception	12	100	0	0

Source: based on responses from interviewees.

Table. 3, shows that the proportion of indirect costs, in addition to awareness and perception, represents the most important incentive for applying the activity-based costing method in Algerian companies, this leads us to reject (Hyp.1).

Competition ensures the broader growth and development of the business environment in free economies by saving expenses that have a positive impact on consumers, unlike some goods and services that are not subject to the forces of supply and demand in Algeria, and which witness purely monopolistic competition, such as the real estate market, which operates under monopolistic competition.

The interlocutors believe that understanding and realizing the benefits of applying the Activity-based costing method and its reflection on the costs of the products provided is not related to strict legal enforcement, as the legislative texts in Algeria do not include the mandatory application of management accounting tools, which makes awareness primary factor for its application, while emphasizing that in some Sometimes the desire to change traditional methods may lead to negative results if the appropriate conditions and necessary resources are not met.

From the interview, using the activity-based costing method in the absence of diversity and multiplicity of products and a low percentage of indirect costs may lead to the same results as traditional methods.

To answer the second question, Table 4 presents the benefits of Activity-based costing method obtained through the interview.

Table. 4. Benefits of Activity-based costing in Algerian companies

Benefits of Activity-based costing application	Algerian companies			
	yes		no	
	n_i	%	n_i	%
Accuracy in calculating costs	10	83,33	2	16,67
Pricing	6	50	6	5
Competitive advantage	8	66,67	4	33,33
Profitability	4	33,33	8	66,67

Source: based on responses from interviewees.

Table. 4, shows that accuracy in determining costs is one of the most important benefits of the activity-based costing method in Algerian companies, with doubts about the method’s ability to raise companies’ profitability and achieve a pricing advantage, what confirms acceptance of Hypothesis (Hyp.3).

The Activity-based costing method allows the costs of goods and services to be accurately determined except in exceptional cases associated with miscalculation of the necessary activities.

Although Algeria has transformed from a directed market economy to a free market economy, some goods and services are not flexible in pricing, especially goods subsidized by the Algerian state.

Algerian companies tend to provide information that targets tax authorities primarily at the expense of investors, since avoiding high profits reduces taxes and avoiding low profits reduces the possibility of audit by tax authorities (tax incentives), and therefore Algerian companies do not focus their efforts when applying the Activity-based costing method on Increasing its profitability.

Accounting professionals confirm that the Activity-based costing method does not change the total indirect costs but seeks to allocate and control them, while influencing profitability requires a tight institutional framework that is flexible with external variables, clarity and speed in addressing inappropriate deviations.

To answer the second question, Table 5 presents the limitations of Activity-based costing method obtained through the interview

Table. 5. Limitations of Activity-based costing in Algerian companies

Limitations of Activity-based costing application	Algerian companies			
	yes		no	
	n_i	%	n_i	%
Cost factor	12	100	0	0
Time factor	10	83,33	2	16,67
Company sector	11	91,67	1	8,33
Professional and scientific competence	12	100	0	0

Source: based on responses from interviewees.

Table .5 shows that the cost factor, scientific and professional competence, in addition to the company’s sector, is among the most important limitations of applying the activity-based costing method in Algerian companies, what confirms acceptance of Hypothesis (Hyp.2).

The levels of application of the Activity-based costing method may be affected by the difference in the type of sector (public/private), as private companies face greater pressure from stakeholders regarding customer satisfaction, enhancing competitive capabilities and raising the quality of products and services provided.

The application of the Activity-based costing method in a given country is linked to the specificities of that country, as small and medium enterprises represent no less than 90% of the Algerian economic fabric, most of which still operate within the framework of family ownership. The latter do not have the tools and means necessary to apply the Activity-based costing method.

The interviewers confirm the difficulty of applying modern methods in the field of management accounting compared to traditional ones in service companies.

The training and scientific qualification component is considered the cornerstone of any company's strategy to move towards applying the activity-based costing method, which is preferable to be provided by professionals and research professors in this field.

In conclusion, the interlocutors’ point of view on the application of the Activity-based costing method in Algerian companies as follows:

- 50% of interlocutors: (against Activity-based costing method) it cannot be applied in Algerian companies.
- 25% of interlocutors: (with Activity-based costing method) it can be applied in the future if appropriate conditions exist.
- 25% of interlocutors: (with Activity-based costing method) It is necessary in Algerian companies.

Through the applied aspect of the study, it is clear that it is difficult to mainstream the application of the activity-based costing method in Algerian companies due to many limitations, as the high cost and the qualified human element constitute the most important limitations to its application.

7. Conclusion

The development in cost accounting methods is a major factor in the growth and continuity of economic companies in light of globalization and breaking restrictions on the movement of goods and services.

Algeria like other countries, has taken a number of measures to encourage the movement of local products at competitive prices. Our study focused on knowing the prospects for applying the Activity-based costing method in Algerian companies by knowing the incentives, limitations and benefits of the method. The study reached several results as follows:

Awareness and understanding, in addition to the high percentage of indirect costs, represent the most important incentives for implementation the Activity-based costing method.

Accuracy in determining the costs of goods and services represents the most important benefit of implementation the Activity-based costing method.

Difficulty in mainstreaming the implementation of the Activity-based costing method, as the method is considered expensive and complex even in developed countries.

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