The Activity Based Costing in Morocco: adoption and diffusion

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Abstract

The Activity Based Costing (ABC) represents a new model in the management accounting. In recent decades, it has been the subject of several research papers, especially in developed countries (USA, UK...). However, this type of work is still absent in Morocco. In this context, this article highlights the results of an empirical study on the ABC adoption in 62 enterprises based in Morocco. The study finds that the adoption rate of this method of the management accounting in Morocco is relatively high (12.9%). It is 21.87% in large enterprises and 3.33% in SMEs. This rate is 14.58% in industrial firms and 7.14% in other enterprises.

Keywords

Activity Based Costing (ABC), adoption rate, large enterprises, SMEs, industrial enterprises.

Introduction

During the last decades, the Activity Based Costing (ABC) represents a major innovation in management accounting, in this regard, Johnson (1990, p.15) states that “...ABC certainly ranks as one of the two or three most important management accounting innovations of the twentieth century”. This method is now one of the most-researched management accounting areas, especially in developed countries: United States of America (Krumwiede, 1998; Kiani & Sangeladji, 2003; etc.), France (De La Villarmois & Tondeur, 1996; Gueye, 1997; Bescos & Cauvin, 2000; Alcouffe, 2002; etc.), United Kingdom (Innes & Mitchell, 2000; Tayles & Drury, 2001; etc.), Sweden (Dahlgren et al. 2001), Norway (Bjornenak, 1997), Ireland (Pierce & Brown, 2004), Australia (Chenhall & Langfield-Smith, 1998; etc.). However, this type of research is still absent in developing countries, especially in the Arab region.

This article aims to present the results of an empirical study done in Morocco and attempts to answer the following question: what is the adoption rate of ABC method in Morocco?

A literature review (§ 1) and a presentation of our choices of research methodology (§ 2) are necessary to conduct the statistical analysis and present the main results (§ 3).

1. ABC and its adoption

1.1. Definition of the ABC method

The activity-based costing technique has been substantially developed in the last decade of the twentieth century (Cooper 1990), because it is claimed to avoid the deficiencies of the traditional absorption costing methods, which commonly use direct labour to assign indirect costs (Dugdale 1990). ABC is a management accounting process that allocates resource costs to products based on activities, which are the factors causing work and incurring cost, used by products or services (Krumwiede & Roth 1997). So it is essential to organize the firm by activities and not by functions or products. The heart of ABC is the activity concept. According to Bescos et al. (2002, p.238), “activities are a group of actions or tasks that add value to a product or a service and that generate costs and resource consumption”. A homogeneous set of activities is called "process".

Three main stages of implementation of the ABC model can be found. The first stage is “the mapping of activities and processes”. This step of building an accounting activity is the identification of activities. The second stage is “the allocation of resources to activities”. In this second stage, the resources

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1 Sorry for any language mistakes, the search was done in French language.
consumed by a product or a service are allocated to the various activities used by this product or service. The third stage is “the consumption of activities by objects of cost (product, service, process...”). This third stage concerns the allocation of activity costs to objects of cost through the cost driver.

1.2. Adoption and diffusion of the ABC method

Over the last decade, several surveys show that the trend in developed countries has been an increase in the adoption and implementation of the ABC method (Baird et al. 2004). In this research, we highlight the evolution of the adoption rate of ABC in three developed countries: USA, UK and France.

Table 1: The extent of ABC implementation in the United States of America

<table>
<thead>
<tr>
<th>Year</th>
<th>Study</th>
<th>Adoption rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>Armitage &amp; Nicholson</td>
<td>11%</td>
</tr>
<tr>
<td>1995</td>
<td>Shim &amp; Sudit</td>
<td>25%</td>
</tr>
<tr>
<td>2003</td>
<td>Kiani &amp; Sangeladj</td>
<td>52%</td>
</tr>
</tbody>
</table>

Graph 1: The adoption rates of ABC in the USA

Table 2: The extent of ABC implementation in the United Kingdom

<table>
<thead>
<tr>
<th>Year</th>
<th>Study</th>
<th>Adoption rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991</td>
<td>Innes &amp; Mitchell</td>
<td>6%</td>
</tr>
<tr>
<td>1994</td>
<td>Drury &amp; Tayles</td>
<td>13%</td>
</tr>
<tr>
<td>2000</td>
<td>Innes, Mitchell &amp; Sinclair</td>
<td>17.5%</td>
</tr>
<tr>
<td>2001</td>
<td>Tayles &amp; Drury</td>
<td>23%</td>
</tr>
</tbody>
</table>

Graph 2: The adoption rates of ABC in the UK

Table 3: The extent of ABC implementation in France

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In the USA, UK and France, surveys between the early 1990s and 2008 have indicated an increasing extent of ABC adoption in each of these countries. In the USA, the adoption rate of the ABC method has increased from 11% (1993) to 52% (2003) and that of UK companies has increased from 6% (1991) to 23% (2001). Manufacturing firms in France increased their ABC adoption from 1215.9% (2002) to 33.3% (2008).

In recent years, some studies have been done on the adoption and implementation of the ABC method in developing countries (table 4).

### Table 4: The extent of ABC implementation in some Asian and African countries

<table>
<thead>
<tr>
<th>Countries</th>
<th>Study</th>
<th>Adoption rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cameroon</td>
<td>Ngongang (2010)</td>
<td>9.3%</td>
</tr>
<tr>
<td>Tunisia</td>
<td>Moalla (2007)</td>
<td>23.75%</td>
</tr>
<tr>
<td>South Africa</td>
<td>Sartorius, Eitzen et Kamala (2007)</td>
<td>12%</td>
</tr>
<tr>
<td>Thailand</td>
<td>Chongruksut et Brooks (2005)</td>
<td>35%</td>
</tr>
<tr>
<td>Malaysia</td>
<td>Ruhanita et Daing (2007)</td>
<td>36%</td>
</tr>
</tbody>
</table>
The adoption rate of the ABC method is higher in Asian than in African countries. It is 36% in Malaysia and 35% in Thailand. This rate is only 24% in Tunisia and 12% in South Africa. The Cameroonian companies adopt this method of the management accounting with a rate of 9.3%. Unfortunately, we could not find statistics for Moroccan firms.

2. Methodology

2.1. Sample

The study was based on data collected using questionnaires sent to enterprises based in morocco. Of 412 questionnaires sent out, a total of 76 questionnaires were returned. However, 14 of these were returned either completely unanswered or partly answered, making a response rate of 15%. The questionnaires were completed by 18 CFOs (29%), 23 management controllers (37%), 17 accountants (27%) and 4 other managers (6%).

The sample consists of 48 industrial enterprises (77%), 6 firms of building and public works (10%), 6 enterprises of services (10%) and 2 commercial enterprises (3%).

![Graph 5: Industry of firms surveyed](image)

Regarding to the firms size, 48% of the sample consists of SMEs (less than 200 employees) and 52% of large firms (more than 200 employees).

![Graph 6: Size of firms surveyed](image)

2.2. Variables measurement

For have information about the adoption of the ABC method, we have formulated the following question: what is the method that do you use to calculate the costs of your products? Four answers were offered:

- "the full cost method (homogeneous sections)"
- "the method of partial costs (direct / variable)"
- "the Activity based costing (ABC)"; and
- "others".

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To measure the size, three types of indicators or metrics are commonly used: “social capital”, “turnover” or “number of employees employed by the company”. In this study, we will retain the third indicator for reasons of availability of information on staffing. Most contingency-based studies have defined and measured size in terms of number of employees (Chenhall, 2003). Accordance with Moroccan law, we consider SMEs, companies employing less than 200 people and as large those employing more than 200 people.

3 - Results and Discussion

According to the survey (table 5), 12.9% of companies have adopted the ABC approach. This result seems surprising; the rate of ABC adoption is relatively high.

<table>
<thead>
<tr>
<th>Methods of the management accounting</th>
<th>Adoption rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABC</td>
<td>12.9%</td>
</tr>
<tr>
<td>Classical methods of the management accounting</td>
<td>87.1%</td>
</tr>
</tbody>
</table>

3.1. Adoption rate of ABC in large firms and SMEs

The adoption rates of the ABC method in large enterprises and SMEs are shown in table 6.

<table>
<thead>
<tr>
<th>Methods of the management accounting</th>
<th>Adoption rate of the ABC method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large enterprises</td>
<td>21.87%</td>
</tr>
<tr>
<td>SMEs</td>
<td>3.33%</td>
</tr>
</tbody>
</table>

The adoption rate of the ABC method in large enterprises is 21.87%, and it is only 3.33% in SMEs. This new method of the management accounting is adopted more by the large firms. This

3.2. Adoption rate of ABC in industrial enterprises and other enterprises

The adoption rates of the ABC method in industrial enterprises and other firms are shown in table 7.

<table>
<thead>
<tr>
<th></th>
<th>Adoption rate of the ABC method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial enterprises</td>
<td>14.58%</td>
</tr>
<tr>
<td>Other enterprises</td>
<td>7.14%</td>
</tr>
</tbody>
</table>

The adoption rate of the ABC method in industrial enterprises is 14.58%, and it is only 7.14% in other firms (building and public works, services and commercial enterprises). The ABC method is adopted more by industrial enterprises.

4 - Conclusion

This article was done to address the absence of this type of work in the world. In this context, Bescos et al. (2002, p. 243) demonstrated that “there is still a lot of work to do to fully understand the diffusion process for management accounting innovations in various contexts”.

The aim of this article was the identification of the adoption rates in Morocco. The adoption rate of the ABC method in Moroccan firms: 12.9%. This rate is 21.87% in large enterprises and 3.33% in SMEs. It is 14.58% in industrial firms and 7.14% in other enterprises. In this context, many avenues of research are considered, for example, the utilization of some organizational variables (size firm, strategy, environment uncertainty, etc.) to explain why enterprises adopt or not this new method of the management accounting.

Bibliography


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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.


