

-RESEARCH ARTICLE-

THE ROLE OF COST MANAGEMENT TOOLS IN REDUCING THE COSTS OF SERVICES PROVIDED IN THE POPULAR MEDICAL CLINIC DEPARTMENT

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—Abstract—

The aim of this research is to introduce cost management equipment in the departments of consulting or popular health clinics. This is essential for spreading indirect industrial costs according to the operations of the organization in an efficient and fair manner. This has a big influence on lowering costs, improving operational performance, and providing management with plenty of information. Activity-based costing and activity-based management technologies were employed in the study to guarantee cost distribution and fairness in calculating, and to provide management with the data they needed to make wise decisions. The results of the study indicate that the cost system used in medical clinics is the traditional method for calculating costs of service. Nevertheless, this approach inadequately represents the true expenses associated with the services provided by medical clinics. The allocation of costs mechanism employed fails to take into account the characteristics of the activity or determine an appropriate billing rate, leading to an inequitable distribution of expenses. Using activity-based costing (ABC) and activity-based management (ABM) tools to assign indirect costs to value-adding activities has been found to promote fairness in distribution and positively impact operational performance, cost reduction, and management information.

Keywords: Cost Management, Activity-Based Costing, Activity-Based Management, Cost Management Tools, Cost Reduction.

INTRODUCTION

Cost is a crucial factor in making administrative decisions, as it significantly influences planning and control (Azevedo et al., 2022). It exemplifies the dedication of the

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symbolizing the sacrifice of resources for a specific good or service (Naugolnova, 2021). In addition, the mentioned concept refers to the worth of a certain quantity of facility's resources to achieve a particular advantage. Additionally, it concerns the expenses associated with purchasing goods or obtaining services within the facility, one of the productive elements (factors of production) that have been given up in order to attain a particular objective or purpose, following predetermined specifications or standards (Sandhu et al., 2021). The cost description varies depending on the nature of the business of the establishment, as it differs in industrial establishments compared to commercial or service establishments (Kwarteng & Sappor, 2021).

Regarding cost management, it involves the implementation of various systems by managers to effectively plan and control costs, whether for short-term or long-term purposes. An effective cost management system enables more accurate budget estimation and allocation (Čečević et al., 2020). It entails a number of actions taken by the administration to guarantee client delight and uphold ongoing cost control. (Kadhim et al., 2020). A key component of managerial accounting is cost management, which helps companies effectively forecast and manage their future costs. It reduces the possibility of going over budget by doing this. It concentrates on the process of selecting the right project and completing it precisely. This complete approach spans every step of the project life cycle, beginning with the early planning stage and continuing all the way through to monitoring exact cost performance post completion of the project. (Reddi, 2023).

The aim of this research is to introduce cost management equipment in the departments of consulting or popular health clinics. This is essential for spreading indirect industrial costs according to the operations of the organization in an efficient and fair manner. This has a big influence on lowering costs, improving operational performance, and providing management with plenty of information. Activity-based costing and activity-based management technologies were employed in the study to guarantee cost distribution and fairness in calculating, and to provide management with the data they needed to make wise decisions.

In overall, the results of the study indicate that the cost system used in medical clinics is the traditional method for calculating costs of service. But, this approach inadequately represents the true expenses associated with the services provided by medical clinics. The allocation of costs mechanism employed fails to take into account the characteristics of the activity or determine an appropriate billing rate. As a result, there is a lack of fairness in the distribution of costs. Using activity-based costing (ABC) and activity-based management (ABM) tools to assign indirect costs to value-adding activities has been found to promote fairness in distribution and positively impact operational performance, cost reduction, and management information.

REVIEW OF LITERATURE

Tools for cost management increase cost accuracy by analyzing core activities and processes to establish and distribute costs more fairly. This can be accomplished by getting rid of non-value-added tasks, which will significantly increase efficiency. activity-based management (ABM) and Activity-based costing (ABC) activity-based management (ABM) are important tools in cost management (Soodbakhsh & Jahanshad, 2020). ABC accounting is involved with the activities undertaken by an economic entity and how the costs of these activities are assigned to the goods or services they generate. Furthermore, the purpose of this study is to develop a more equitable technique for allocating indirect costs to goods and services (Berg & Madsen, 2020). Many industries use the cost approach, including building, metalworking, aviation, and footwear. It can be characterized based on actions (Quesado & Silva, 2021).

The goal of this approach is to give senior management unbiased information about the costs of goods and services so they can make wise choices (Mattetti et al., 2022). There are various benefits to costing in an academic setting. Initially, it enhances price data for items or services. Additionally, it improves price decisions and product plans by employing more objective cost information. Also, it works well for reducing costs by getting rid of non-value-adding activities like wasteful and inefficient ones. Moreover, by closely observing cost behavior from the outset, it helps improve control over spending, both in the short and long term. Furthermore, It is useful for conducting more objective performance evaluations through initiatives and accountability centres. In addition, it has a capability to deliver more accurate cost estimation in comparison to standard costing methods (Jiménez et al., 2020). Previous study reveals that the ABC methodology has shown to be a highly successful strategy for calculating manufacturing costs (Yang et al., 2020), considering the environmental issues (Tirol-Carmody et al., 2020). Researchers have discovered that when compared to conventional cost-calculating techniques, it offers more accurate cost calculations. (Al-Dhubaibi, 2021).

ABM is a useful tool that managers can use to improve operational efficiency and cut expenses. In order to assess operational performance, it entails analyzing operations and creating cost vectors (Gosselin & Journeault, 2022). This strategy focuses the proper management of activities to increase customer service and maximise revenues. To accomplish these aims, the management system must be optimized. The employment of the ABC & ABM methods led to major alterations to administrative expenses systems. More than 15,000 businesses have adopted these systems, including both industrial and service-oriented businesses. It includes a variety of instruments and frameworks that aim to maximize customer value while lowering expenses. (Duran & Afonso, 2020).

ABM attempts to enhance the value of the good or service for the consumer by reducing

expenses. It assists management in making pricing decisions in a fair and accurate manner, allowing them to determine the cost of the product or service and its impact on the company's profitability (Zamrud & Abu, 2020). By using ABM, businesses can improve their operational efficacy and efficiency and guarantee more accurate product cost calculations through careful monitoring of expenses and performance assessments. (Vetchagool et al., 2020).

ABC and ABM function together perfectly, with the organization starting off with applying ABC and then shifting to ABM (Making, 2020). ABC offers insights into cost drivers and explores decision models in a specific context (Tran & Tran, 2022). Hence, ABM thoroughly examines the data to facilitate crucial administrative decision-making and assess the efficiency and efficacy of various activities and operations (Pashkevich et al., 2023). This application seeks to enhance administrative and accounting processes to boost productivity, streamline decision-making, and eliminate non-essential tasks, thereby enhancing the overall value of the company (Tam & Tuan, 2020).

Efficient cost management is crucial for businesses to enhance their operational effectiveness and overall efficiency (Lan et al., 2020). It is widely recognised as a crucial element that can enhance the performance of organisations. A more effective approach to cost management is to address these issues more efficiently (Ordynskaya et al., 2021). In addition, the level of cost management improves over time with the implementation of effective mechanisms to reduce unnecessary overhead expenses. The decrease in overhead costs enhances the profitability of the business by improving work efficiency (Iliemena, 2020). Thus, it is crucial for modern businesses to focus on cost management in order to enhance their performance.

In addition, there are both traditional and modern approaches to cost accounting, with the modern methods being considered more advantageous in terms of cost analysis (Wiredu et al., 2023). The process of accounting is essential for managing and accessing profitability. Properly distributing the cost is essential for the successful development of a business in the market. In addition, the advantage of progressing in cost accounting is to effectively maintain records and ensure that inventory is kept up-to-date (Springmann et al., 2021). Business productivity and rational decision making can be enhanced through the use of cost accounting (Tomašević et al., 2023). Cost-accounting can greatly assist top management in better preparing for decision-making.

METHODOLOGY

A Brief Historical Overview of The Department of Popular Medical Clinics

The well-known medical clinics in Iraq have a long history, tracing back to 1951. At that time, the Directorate of Public Health, which was under the Ministry of Labour and Social Affairs, decided to name Dr. Ismail Naji's private clinic. In a letter addressed to

him directly, the department expressed sincere appreciation for his selfless contributions and extended their best wishes for success in all his future endeavours, including his job search. This clinic, dedicated to providing healthcare to individuals and their families with limited incomes, is truly remarkable. It values the inclusion of labourers and peasants by inviting them to military and staff meetings, rather than imposing a monthly subscription. The family values the monthly payment made at the start of each month, taking into account factors such as the number of patients, family dynamics, and the extent of reviews completed in collaboration with various experts and professors. Professor Hashem String, the dean of the College of Medical Property in Iraq at the time, along with Professor Perfection Samurai, Mr. Birth and Illnesses, female faculty members from the same college, and Dr. Immortal Survivor, a surgeon, were all involved in the human project. The hospital education specialist acknowledges the medical popularity of Circle Clinics, which led to the establishment of a well-known medical facility in the Karkh region for treating acanthosis nigricans. This facility is named "Doctor Ismael Survivor" after the businessperson who conceived the idea.

Clinics Medical Popular General

Folk medical clinics serve as the foundation for popular medical clinics in Iraq. The majority of doctors in these clinics are practicing doctors, but they also include one or more specialists. However, it was not until 2001 that specialised clinics were established on a large scale. Popular clinics consist of various medical units that offer therapeutic and diagnostic medical services. The growth and increase in the number of these clinics can be attributed to the high demand for their services by citizens. As a result, they have expanded their coverage to include all governorates, as well as most district centres and large districts. The report's statistics and indicators demonstrate the annual volume of services provided by these clinics. The fees collected for the review are symbolic and do not burden the citizen, in accordance with the objectives outlined in the Popular Medical Clinics Law No. 89 of 1986. Therefore, these clinics serve as an alternative to private clinics for individuals with low incomes.

Clinics Medical Popular Advisory

In order to meet the needs of the community, the Board of Directors of Popular Medical Clinics made the decision to establish two consulting medical clinics in Baghdad. One clinic will be located on the Karkh side and the other on the Rusafa side. This choice, which was taken in the fourth session of 2007, was founded on accepted ideas that have subsequently undergone additional development. A plenty of well-known medical clinics have moved into consulting services as a result of their assessment of their work and the availability of their resources. The change has notably attracted expert doctors with clinical specialties who have an interest in practicing in this environment. These clinics have revolutionised the medical field by offering a comprehensive range of

medical and diagnostic services to patients, along with fulfilling all their medication needs. These clinics provide a comprehensive range of medical services, such as materials, supplies, radiological exams, ultrasounds, and laboratory solutions. They are outfitted with the newest medical supplies and get support from the Ministry of Health. The data for this research was acquired from several clinics in Iraq.

FINDINGS

ABC operations entail identifying the main duties of the rendered service and allocating the indirect industrial cost to these duties. The process of identifying the key activities is crucial when implementing activity-based costing. In addition, the cost wave is calculated for each activity based on the cause-and-effect relationship between the activities and the cost vectors. This step is crucial in determining the allocation of the cost wave for each activity. Based on the data, there were three activities. The activities included salaries and wages, commodity supplies, and service supplies. The activities are displayed in [Table 1](#).

Table 1: Determine The Main Activities and The Cost Wave for Each Activity.

Activity	Cost pool
Salaries and wages	Preparing the employees and workers in the department
Commodity supplies	Preparing used medical devices
Service supplies	The number of maintenance times on medical devices

In addition, the precise cost of each activity was determined. Based on the data provided, the total expenditure for salaries and wages amounted to 20,908,462,386. Meanwhile, the cost of commodity supplies amounted to 1,221,330,416. Additionally, the cost-of-service supplies amounted to 8,868,327,23. The data for all three costs is provided in [Table 2](#).

Table 2: Determine The Actual Costs for Each Activity.

Activity	Activity Cost
Salaries and wages	20,908,462,386
Commodity supplies	1,221,330,416
Service supplies	8,868,327,23

Furthermore, the cost vector for each activity was determined. Based on the data, salaries and wages are influenced by 993 different factors. Meanwhile, there are 395 cost drivers for commodity supplies. Service supplies have 240 cost drivers. The cost vectors for each activity are displayed in [Table 3](#).

Table 3: Determine The Number of Cost Vectors for Each Activity.

Activity	Number of Cost Drivers
Salaries and wages	883
Commodity supplies	395
Service supplies	240

In the service provided in medical clinics, the cost loading rate is calculated for each activity after defining the activities and cost drivers. The calculations for cost loading rate for each activity are thoroughly explained in [Table 4](#).

Table 4: Calculating The Cost Loading Rate for Each Activity.

Activity	Cost Pool	Number of cost drivers(1)	The total cost of the activity (2)	Overhead rate(1/2)
Salaries an wages	Preparing the employees and workers in the department	883	20,908,462,386	2,367,889,2.8
Commodity supplies	Preparing used medical devices	395	1,221,330,416	30,919,75.7
Service supplies	The number of maintenance times on medical devices	240	8,868,327,23	36,951,36.3

Meanwhile, the study analysed the cost vectors for each activity in the popular medical clinics and consulting medical units. Based on the statistics presented in [Table 5](#), it is evident that there were 883 cost vectors in the salaries and wages activity. Similarly, there were 395 cost vectors in the activity related to commodity supplies. Ultimately, there were a total of 240 cost vectors in the service supplies activity.

Table 5: Determine The Cost Vectors for Each Activity in The Popular Medical Clinics and Consulting Medical Clinics.

Activity	Medical clinics		Total
	popularity	consultant	
Salaries and wages	805	78	883
Commodity supplies	324	71	395
Service supplies	235	5	240

In addition, [Table 6](#) provides a breakdown of the expenses associated with the services offered at the well-known medical clinics and consulting medical units. Based on the data, the total cost of salaries and wages amounted to 20,908,462,386. In addition, the

total cost of commodity supplies amounted to 1,221,330,416. There was a significant cost associated with service supplies, totaling 8,86,832,723.

Table 6: Distributing The Costs of The Activities to The Service Provided in The Popular Medical Clinics and Consulting Medical Clinics.

Activity	Activity upload rate	The share of each department in the costs of the activities		Total
		Popular medical clinics	Consulting medical clinics	
Salaries and wages	23,678,892.8	19,061,508,744	1,846,953,642	20,908,462,386
Commodity supplies	3,091,975.7	1001800139	219,530,277.3	1,221,330,416
Service supplies	3,695,136.3	868,357,041.3	18,475,681.73	8,86,832,723

To initiate the cost calculation process for each service based on ABC activities, it is essential to establish the cost vectors for each activity and determine the proportion of popular medical clinics and medical consulting clinics in the total cost of the activity, as outlined in [Table 7](#).

Table 7: Comparison of the Traditional System in Costing Based on ABC Activities.

traditional system			
	The cost of marketing services	The cost of administrative services	the total
Salaries and wages	14,008,669,798	6,899,792,588	20,908,462,386
Commodity supplies	403,039,038	818,291,378	1,221,330,416
Service supplies	594,177,924	292,654,799	886,832,723
ABC system			
	Medical clinics		the total
	popularity	consultant	
Salaries and wages	19,061,508,744	1,846,953,642	20,908,462,386
Commodity supplies	1,001,800,139	219,530,277	1,221,330,416
Service supplies	868,357,041	18,475,682	886,832,723

In the ABC system, the department has made improvements to how indirect industrial costs are allocated and distributed. Previously, the department used a ratio (67% - 33%) without a scientific basis to distribute costs to two service centres. Now, a more accurate and fair method is being used. The costs were not evenly distributed among the different centres, resulting in a lack of accuracy and fairness in the distribution mechanism. Only two centres, marketing and administrative services, adopted the cost distribution, further exacerbating the issue. The ABC system is designed to ensure fairness and accuracy in the allocation of indirect costs. It achieves this by linking each activity in the department to a cost wave that is appropriate for the type of activity. By calculating an appropriate load rate for each activity, the system ensures that costs are distributed in a transparent and equitable manner.

The application of ABM involves identifying the key activities of the service, assigning cost vectors to each activity, and allocating indirect costs accordingly. This analysis, based on ABC, allows ABM to determine which activities provide value to the customer and which do not. Based on the table provided, it is evident that the salary and wages activity does not contribute value to the customer. This is because the total costs of these activities amounted to 20,908,462,386, which is a significant portion of the total costs associated with the service provided to the customer.

Through a comprehensive assessment and analysis of the operational effectiveness of well-known medical clinics and consulting medical clinics, we aim to identify potential areas for cost reduction. This will involve implementing a cost scale to evaluate the performance of these activities, a cost scale will be implemented. The efficiency of activities can be evaluated by analysing their costs. Activities that have high costs but do not yield proportional benefits are considered inefficient. These activities consume a significant amount of resources without generating sufficient value. Hence, increasing the efficiency of these operations will result in a reduction in expenses. An analysis of the activities performed in medical clinics reveals that certain activities incur significantly higher costs than others. For instance, the salary and wages activity alone accounts for 90% of the total costs. Therefore, it is regarded as a supplementary activity that does not directly contribute to the production of medical services. To reduce costs, it is necessary to explore methods such as implementing an electronic system or automation. The system of incentives for those responsible for the work is structured in a manner that directly accounts for the salaries and wages of doctors and nurses, without including the costs associated with administrators and departments that are not directly involved in patient care.

[Alia and AbuSarees \(2023\)](#) suggest that businesses can enhance their effectiveness and efficiency through the implementation of cost management strategies. It is widely recognised as a crucial element that can improve an organization's performance. According to [Marlina et al. \(2020\)](#), prioritising the resolution of these issues is the more

effective method for managing costs. additionally, by developing efficient working processes to decrease unneeded costs, the efficacy of managing costs gradually grows. As per the research conducted by [Fahmi et al. \(2022\)](#), improving cost management and operational efficiency can significantly boost a company's profitability. Therefore, Cost control is a critical component of modern organizations and should be prioritised due to its major impact on performance. According to [Toscani et al. \(2020\)](#), it has been discovered that contemporary cost accounting techniques outperform older conventional methods in terms of costing. Accounting processes are necessary for assessing profitability and handling problems in an efficient manner. As per Cooper and Kawada (2022), it facilitates the equitable distribution of startup costs associated with entering the market. As per the research conducted by [Iershova et al. \(2021\)](#), Another advantage of developments in cost accounting is the ability to keep inventories up-to-date and efficiently manage records. [Charaf et al. \(2022\)](#) say that cost accounting assists firms to run efficiently and effectively, encouraging productivity and rational thinking. Using cost accounting can significantly help senior management make well-informed judgments.

CONCLUSION

In conclusion, the conventional method for determining service costs in medical clinics is the cost system. Nevertheless, it fails to adequately reflect the full cost of the services given by these clinics. moreover, there is no service cost assignment in the used cost scheme. This strategy helps to estimate the right cost for each operation and a fair loading rate. Therefore, the correct allocation of costs promotes integrity and equity. Additionally, a lack of competence within the competent department staff led to in insufficient experience and time to appropriately record and compute all cost data. As a result, the information becoming insufficient and unable to deliver a comprehensive portrayal of the reality of medical facilities. In conclude, medical clinics frequently assign indirect costs without taking into account the particular advantages that each activity derives from the resources that are allotted. This method may not adequately account for the various requirements and implications of different activities within the clinics.

IMPLICATIONS

The research advises re-evaluating the cost system employed in healthcare centers and establishing a specialized committee to find an appropriate cost system, while also working to decrease costs and non-value-added activities. Furthermore, it advocates employing activity-based costing systems to assign and distribute indirect expenses to activities that create value. Moreover, the study indicates the need of providing training and support to the staff in the department of costs. This will improve their efficacy and efficiency and give them the tools they need to manage electronic data and information.

They will acquire important experience and expertise by doing this, and it will also provide them enough time to enter and analyze data appropriately. Management must rapidly realize the relevance of the activity-based costing system, which delivers essential data and information for successful planning, decision-making, and management.

FUTURE DIRECTIONS

There are numerous recommendations for additional research in this specific area in the future. First, using a structural equation model to measure the data is advised for future research. Second, it is important to provide a framework for analyzing the relationship between ABM and ABC and determining their importance for clinical costs. Third, it is recommended that in order to analyze the link between factors, future research collect data from cost accounting specialists. Furthermore, subsequent research can be built upon the examination of bibliographic data, delivering a vital contribution to knowledge. Therefore, it has the potential to make a substantial addition to the field of knowledge and can assist overcome any gaps in current researches.

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