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### THE USE OF PERFORMANCE FOCUS ACTIVITY BASED COSTING APPROACH IN IMPROVING THE EFFICIENCY OF USING GOVERNMENTAL HOSPITALS RESOURCES IN IRAQ (CASE STUDY)

*Amal Abdulhussain Kuhait<sup>1</sup>, Hassanein Mohi Megabal<sup>2</sup>*

<sup>1,2</sup>Al-Furat Al-Awsat Technical University/ Technical College Of Management Kufa

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#### **ABSTRACT**

The research aims to present and analyze the PFABC approach and the role that it plays. Which is to reduce costs improve the quality of cost information, monitor available resources and then improve performance in government hospitals by increasing the efficient of using hospital resources.

The search results reached that the PFABC provide measures of price, quantity, efficiency and effectiveness variances of flexible resource, also provide measures of budget and energy variances of committed resources, and assists in measuring the productivity of each activity component, exemplified in efficiency and effectiveness.

It also provides a new quality of information, related to the preparation of performance reports for each activity, enabling the management to determine the activities that are performed in a correct manner and the activities whose performance should be reconsidered, thus improving the efficiency and effectiveness of those activities.

#### **RESEARCH PROBLEM**

The issue of the accuracy of measuring and charging costs in government entities has received great importance, which prompted many researchers to suggest modern approaches to develop cost accounting systems in the field of allocating and charging costs, this was formed in the application of activity based costing approach (ABC)(Kaplan,2001). There was a lot of criticism for this approach, which prompted Kaplan and Anderson to introduce Time driven ABC (Kaplan and Anderson,2004), and Namazi to introduce PFABC(Namazi,2009).

The problem can be formulated with the following questions:

- 1) Will (PFABC) provide better information to improve the quality of cost information and enhance the efficiency of the use of government hospital resources in Iraq?

2) Is PFABC, can be applied in assessing the performance of government hospitals in Iraq?

### **THE IMPORTANCE OF RESEARCH**

- 1) Implement a model for PFABC in government hospitals, which lack a health service cost management system.
- 2) Bridging the gap in the scarcity of case studies in applying PFABC in the health sector.
- 3) Provide accurate cost information to assist the government hospital management in evaluating the performance of each activity.
- 4) Raise the costly awareness in the government hospital and increase coordination between doctors who do not consider the costs as a main driver in the medical decision-making process and the accountants who do not have enough of them for medical operations.

### **RESEARCH OBJECTIVES**

1. Presentation and analysis PFABC approach and the role that it plays in reducing costs, improving the quality of cost information, monitoring available resources and then improving performance in government hospitals.
2. Explanation of the application of PFABC in a government hospital to provide cost information that helps in assessing performance and increasing the efficiency of hospital resource use.

### **RESEARCH HYPOTHESIS**

The research is based on the premise: that the use of PFABC helps to improve the quality of cost information and enhances the efficiency of the use of government hospital resources, as well as more accurate and comprehensive than previous approaches.

Therefore, the research will include the following topics

- 1) The concept of cost (PFABC).
- 2) Steps to implement PFABC.
- 3) Calculating the cost of health services in government hospitals and performance variances according to PFABC.

#### ***The concept of cost (PFABC)***

Namazi presented in 2009 (PFABC) as a methodology that allows economic entity with greater flexibility in choosing from the main resources that reflect a better causal relationship with cost objective. He explained that there are 4 practical steps for (PFABC), specifically to create an integrated approach to cost information on the basis of activities, which can overcome the deficiencies that face the (ABC)<sup>1</sup> and TDABC and to solve many issues such as Performance Control, and some problems related to TDABC input, to broaden the effects of ABC and TDABC (Kowsari, 2013: 2505).

In addition, PFABC approach provides economic entity with greater flexibility in choosing the causes of cost, which reflects the causal relationships between the main resources and the purpose of cost (Hassoun, 2018: 30). Namazi

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<sup>1</sup> ABC:Activity Based Costing introduced by Kaplan.(Kaplan,2001).

defines PFABC as a new entry that provides integrated information that can be used in performance control, and solves some problems related to ABC and TDABC (Namazi, 2009: 36).

(Saad et al) Define the PFABC as an approach that determines the current costs for each activity separately and with high accuracy, as it takes into account the appropriate cost orientation and provides flexibility, because some activities are directed other than time, as well as the fact that PFABC is a tool for allocating costs and performance evaluation (Saad et al., 2016: 165).

Hamrouni defined PFABC as a powerful tool for planning and evaluating performance, that works to identify important variances, such as efficiency and effectiveness variances, as well as the non-financial information provided about each activity, such as resource cost drivers, it is an approach that integrates the advantages of ABC in the analysis of activities and cost multiplication, and simplicity of the TDABC input, the accuracy of determining product cost and measuring unexploited energy cost in an integrated approach achieves accurate cost measurement (Hamrouni, 2016: 441).

(Carroll & Lord, 2016: 176) defined PFABC as it is the third version of activity based costing and tries to address the deficiencies in each of (TDABC / ABC) and works to expand the value of the cost systems to include the organizational performance check, It is also a structured process for allocating indirect costs properly.

It is clear from the above that this entry can be considered as a tool for planning, control and evaluating performance due to measurement of some cost variances, such as efficiency and production volume variances, and it is considered an approach to solve problems for the previous two approaches ABC and TDABC. It also provides measures to measure the productivity of each activity and its elements represented in efficiency and effectiveness, and therefore it is considered an approach with a control approach, that is, related to management control and performance evaluation.

### ***Steps to implement PFABC***

The application of PFABC passes with (9) major steps for determining costs, which can be illustrated by the following:

#### ***Identify the main activities***

This step is similar to the first step in(ABC), but it is not present in (TDABC), and this step is necessary for two reasons: first; that the different behavior and nature of the costs of each activity within the economic unit, even in relation for a single department, (for example, the customer services department with many activities whose costs are different in terms of their nature and behavior from other activities within the department). Second; that the identification of activities represents the main element in ABC and on the basis of which activities are identified (Namzi 2009: 36).

The researchers believe that this step is very important in strengthening the authority of management, as it helps in analyzing activities to identify activities that add value and others that do not add value, and to enhance the efficiency of activities that add value.

#### ***Determine the actual resources used for each activity***

In traditional ABC, the actual resources used are calculated on the basis of a percentage of the time spent in each activity, based on interviews and questionnaires with workers and officials, to collect the necessary information and data that helps in estimating the time that each activity needs as a basis for allocating costs. As for TDABC, the concept of practical energy is used for resources in the form of time units by determining the total elapsed time for each specific section, and does not specify the time required to perform each activity.

As for (PFABC), the actual resources are determined in a different way. Employees are the ones who perform a specific activity and therefore they are the most capable of determining the type and amount of the actual resources that are used for each activity, based on their behavior or the information system of the economic entity. Resources may be the time, amount of raw materials, or any other appropriate scale provided that it reflects the causal relationship with the subject of measuring costs.

This step includes identifying the behavior of the actual resources acquired in the matter of Cost Object by dividing the resources into flexible resources and committed resources (Sarokolaei, alt, 2013: 347).

#### ***Determine the actual rate for each resource activity***

In PFABC, the average cost rates are determined separately for each activity of the economic entity, mainly through the current information systems based on the actual data, according to the supplier, and the behavior of the costs.

For example, the average hourly costs per hour for the performance of the audit function; it is viewed as a variable and adjusted cost that may be different from costs in relation to these other activities, such as taxes or administrative advisory services.

On the other hand, the average cost in relation to the depreciation of the buildings of an economic entity is considered to be a fixed cost and is considered differently from the costs of the audit process because it is treated as a fixed cost and not a variable cost (Sarokolaei et al., 2013: 348).

#### ***Determine the cost of each activity***

PFABC determines the cost of each activity by taking into account the resource cost behavior in the resource, and when the resource is flexible, its cost is a variable cost and the result is that the cost of the input factors is

determined by multiplying the actual resource required in relation to the activity in the actual price of the resource consumed.

Actual cost of the activity = The quantity of actual resource consumed X Actual resource unit price

***Calculate the standard activity rate***

This step is a major step in FPABC. In this step, the standard rate is estimated for each activity, and this estimate can be accomplished through several methods, including: labor measurement techniques, market mechanism, internal and external indicators, as well as some statistical methods that can be used as regression and time series analysis.

This criterion must be calculated (with care) because it will be used as a basis for distinguishing with the current rates and the actual costs of the operation. And accordingly, the managers must make the necessary adjustments such as (the rate of extraordinary losses, geographical locations ..... ) in order to obtain the correct standard. Although this step may be expensive, it adds the appropriate accuracy to the model and provides it with a reliable basis for measuring the existing operations. (Sarokolaiea, et.al, 2013: 349).

***Calculate the price variance***

It is considered a necessary step in (PF-ABC), to determine the price variance of the flexible resources. The amount of the required actual resources is calculated by the activity multiplied by the standard price of the resources consumed and then subtracted from the actual cost of the activity; and as far as the committed resources are concerned, there is no price variance because they are fixed.(Namazi ,2009: 41).

***Calculate the costs charged for the activities***

This step is somewhat analogous to what is (TDABC), but (PFABC) clearly examines the behavior of consumed resources that divides resources into (flexible and committed<sup>2</sup> resources), first task consists determining the standard amount of consumer resources to perform activities, and this standard quantity must be determined precisely because it will be used as reference measures as well as to distinguish with the actual amount used from resources, and labor measures or statistical methods such as regression analysis are adopted to calculate that standard quantity resources, Flexible and committed costs for energy resources charged are calculated by the following relationships:

$\text{Cost applied of committed resource} = \text{The standard quantity of required resources to production per unit} \times \text{actual work quantity} \times \text{the standard price of committed resource}$
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<sup>2</sup> Committed Resources: Resources that are contracted before the need to use them (available before use and contracted to obtain a certain amount) regardless of whether the available quantity is fully used or not. (Hansen & Maryanne, 2007: 75).

The difference between the equation is the benchmark price of committed resources, which is determined according to the budget (Namazi, 2009: 41).

$$\text{Cost applied of flexible capacity resource} = (\text{The standard quantity of required resources to production per unit} \times \text{actual work quantity}) \times \text{the standard price of flexible resources}$$

***Calculate the quantity variance***

The variance of the quantity indicates whether the production manager has used more than the standard quantity for the actual production of a particular product or service, and this deviation measures the performance of the production managers, Where the deviation of the quantity of activity for resilient resources is determined by multiplying the amount of the actual resources required for the activity by the standard price by the amount consumed. Then the carrying cost of the activity is subtracted from the result of the multiplication.

As for the variance of the activity quantity for the committed resources, it is calculated by subtracting the costs charged from the committed costs planned in the budget (Shaheen, 2018: 124), (Chea, 2011: 8).

***Calculate Productivity for each activity***

Activity productivity is considered one of the most important information in the process of assessing management performance (OECD ,2001:11),and it is considered a vital step in PFABC. Productivity is measured as: Efficiency + Effectiveness (Namazi, 2009: 41). Efficiency is defined as the ratio of inputs to the resources required to achieve a certain level of output(Mouzas,2006:5). It is a measure that expresses the optimum relationship between inputs and outputs. The readability is seen as performing the business in a correct way Do The Things Right, and the deviation of competence reflects whether the resources were used with efficiency or not. (Al-Qastawi, 2016: 54).

Effectiveness is defined as the ability to achieve goals in the shadow of limited resources, effectiveness is seen as doing the right business, and the deviation of effectiveness demonstrates whether or not the planning manager has succeeded in achieving the set goals (Sarokolaeia, et.al, 2013:201). Measure actual results and compare with the plan consider to be an important step in evaluating performance (Slavoljub, et. al.,2015).

***Calculating the cost of health service according to PFABC in a hospital,( the sample of the study):***

In this section, the researchers will apply the model presented by Dr. Namazi in 2009 to calculate costs based on PFABC that has been explained in the theoretical side, on “Al Furat Al Awsat Hospital (FAH)” .

### *Implementing PFABC in Al Furat Al Awsat Hospital*

#### *Step One: Identifying the main activities in the hospital*

The hospital is divided into several activities, shown in Table 1.  
Table (1) Activities of Al Furat Al Awsat Hospital

Activities of the Hospital	
Internal medicine	Pharmacy
Surgery	Blood Lab.
Gynecology	Anesthesia
Otolaryngology	X-ray
Pediatrics	Sonar
Orthopedics Surgery	Patient Services
Ophthalmology	Pharmacy
Emergency	

We will be limited to analyzing and evaluating the performance of departments of Internal Medicine and Orthopedics.

#### *Identify the actual resources used for each activity*

In this step, the sums of the necessary upstream actual resources are calculated (direct materials, direct wages, and indirect expenses). Since direct materials and direct wages can be allocated directly, the distribution is for indirect expenses, as this step requires the hospital's indirect expenses to be calculated by accrediting the reports that are prepared by the accounts section of the hospital and are shown in Table (2) as follows:

**Table (2) Costs of The Hospital**

No.	Costs Components	Total (ID)
1)	Salaries of administrators and accountants	15840000
2)	The salaries of the information staff and the ticket organizers	14343000
3)	Salaries of service workers	45000000
4)	Medical supplies	43680000
5)	Other supplies	6700000
6)	Stationery	1220000
7)	Educational books	446000
8)	Garments	4920000
9)	Foodstuffs	9660000
10)	Electricity expenses	6624000
11)	Water expenses	1960000
12)	Fuel Maintenance of medical devices	7335000
13)	Maintenance of machines	30103000
14)	devices and machines	1457000
15)	Building maintenance	582000
16)	Depreciation of medical devices	3558000
17)	Depreciation of machines and devices	1850000

18)	Depreciation of Building	3820000
19)	Other services	589500

After the indirect expenses for the production and delivery of the health service have been determined, we move to the next step, which is to allocate the indirect expenses to the main activities of the hospital, relying on financial statements and final accounts, and some of the storage exchange documents in the hospital.

Table (3) shows allocating indirect expenses to the main activities, as follows:

**Table (3)** Percentage of allocating indirect expenses to the main activities

No.	Costs Components	Internal Medicine	Orthopedics	total
1)	Salaries of administrators and accountants	52.27%	47.73%	100.00%
2)	The salaries of the information staff and the ticket organizers	49.10%	50.90%	100.00%
3)	Salaries of service workers	57.78%	42.22%	100.00%
4)	Medical supplies	40.59%	59.41%	100.00%
5)	Other supplies	47.76%	52.24%	100.00%
6)	Stationery	24.59%	75.41%	100.00%
7)	Educational books	21.52%	78.48%	100.00%
8)	Garments	65.04%	34.96%	100.00%
9)	Foodstuffs	81.78%	18.22%	100.00%
10)	Electricity expenses	64.76%	35.24%	100.00%
11)	Water expenses	50.00%	50.00%	100.00%
12)	Fuel Maintenance of medical devices	58.49%	41.51%	100.00%
13)	Maintenance of machines	9.48%	90.52%	100.00%
14)	devices and machines	51.48%	48.52%	100.00%
15)	Building maintenance	52.23%	47.77%	100.00%
16)	Depreciation of medical devices	54.89%	45.11%	100.00%
17)	Depreciation of machines and devices	44.32%	55.68%	100.00%
18)	Depreciation of Building	48.69%	51.31%	100.00%
19)	Other services	66.24%	33.76%	100.00%

After setting the percentages, indirect industrial expenses can be allocated to the main activities, as shown in Table (4):

**Table (4)** Allocate indirect expenses to the main activities

No.	Costs Components	Internal Medicine	Orthopedics	Total
1)	Salaries of administrators and accountants	<b>8280000</b>	7560000	15840000
2)	The salaries of the information staff and the ticket organizers	<b>7042000</b>	7301000	14343000
3)	Salaries of service workers	<b>26000000</b>	19000000	45000000
4)	Medical supplies	<b>17730000</b>	25950000	43680000
5)	Other supplies	<b>3200000</b>	3500000	6700000
6)	Stationery	300000	920000	1220000
7)	Educational books	96000	350000	446000
8)	Garments	<b>3200000</b>	1720000	4920000
9)	Foodstuffs	7900000	1760000	9660000
10)	Electricity expenses	4290000	2334000	6624000
11)	Water expenses	980000	980000	1960000
12)	Fuel Maintenance of medical devices	4290000	3045000	7335000
13)	Maintenance of medical devices	2853000	27250000	30103000
14)	Devices and machines maintenance	750000	707000	1457000
15)	Building maintenance	304000	278000	582000
16)	Depreciation of medical devices	1953000	1605000	3558000
17)	Depreciation of machines and devices	820000	1030000	1850000
18)	Depreciation of Building	1860000	1960000	3820000
19)	Other services	390500	199000	589500
<b>Total</b>		<b>92238500</b>	<b>107449000</b>	<b>199687500</b>

After allocating indirect expenses, the total resources can be determined for each activity, as shown in Table (5).

**Table (5)** Determine resources needed for each activity

Resources	Internal Medicine	Orthopedics	Total
Direct material	132600000	271884000	404484000
Direct labor	302400000	261360000	563760000
Indirect expenses	92238500	107449000	550903000
<b>Total</b>	<b>527238500</b>	<b>640693000</b>	<b>1519147000</b>

**Determine the actual average for each activity resource**

In this step, the actual rate for each activity is calculated, by dividing the actual costs for each activity by the cost drivers in each activity and for the three cost elements. As the following equation: Actual rate of activity = Actual costs of the activity ÷ cost driver

As shown in Table (6) below.

**Table (6)** Calculating the actual rate for the main activities

Internal Medicine				
Resources	Cost driver	Actual cost (1)	Activity cost driver (2)	Actual rate (1)÷(2)
Direct material	Number of patients	132600000	5475	24219
Direct labor	Number of working days	302400000	4745	63730
Indirect expenses	Number of patients	92238500	5475	16847
Orthopedics				
Resources	Cost driver	Actual cost (1)	Activity cost driver (2)	Actual rate (1)÷(2)
Direct material	Number of patients	271884000	7665	35471
Direct labor	Number of working days	261360000	3650	71605
Indirect expenses	Number of patients	107449000	7665	14018

It is noted from the table above that PFABC distinguished from previous approaches by the multiplicity of directives for a single activity, for example in the Internal Medicine, a directive (number of patients) was approved for the direct materials component as 5475 patients entered during the year 2018 for surgery activity (number of Patients x number of days of the year). As for the direct wages component, a cost driver (number of working days) was used, where it is extracted from the following equation: (the number of doctors and direct medical staff of the internal medicine x number of days of the year):

= (13 x 365 days = 4745). As for the indirect expenses component, the direct materials driver (number of patients) was approved in the year, and the actual average of the remaining main activities (activities) is calculated in the same way above.

**Determine the cost of each activity**

In this step, the actual cost of each activity is calculated through the following formula: -

$AC = AQ \times AP$   
 AC = Actual cost of consumed resources

AQ = Actual consumed resources  
 AP = Actual price of consumed resources

As shown in Table (7)

**Table (7)** Determine the cost of each activity

Internal Medicine				
Resources	Cost driver	Amount of actual resources per year AQ (1)	Actual rate of resources AP (2)	Actual cost of activity AC (1) × (2)
Direct material	Number of patients	5100	24219	123517808
Direct labor	Number of working days	4080	63730	260019389
Indirect expenses	Number of patients	5100	16847	85920795
Orthopedics				
Resources	Cost driver	Amount of actual resources per year AQ (1)	Actual rate of resources AP (2)	Actual cost of activity AC (1) × (2)
Direct material	Number of patients	6340	35471	224885135
Direct labor	Number of working days	2853	71605	204290433
Indirect expenses	Number of patients	6340	14018	88874972

It is noted from the above table that the actual cost consumed differs from what the hospital data showed, due to the difference in the number of actual working days in relation to the cost driver ( number of patients 5100), when calculating the number of patients annually, the number of days of the year is 340 days, and this is the number of actual working days, While it was recorded when preparing the accounts for the hospital 365 days, which leads to a difference between the actual cost in the records and the actual cost consumed.

***Calculate the standard rate of activity***

In this step, the standard rate for each activity is calculated. For calculating the standard rate for each activity there are several ways that can be followed, one of which is the accreditation of accountants and administrators' estimates. The researchers took the opinions of specialists in the Statistics and Accounting

Department for the purpose of determining these rates. This step also requires estimating the standard resources needed for the activities, as shown in Table (8) below:

Table (8) Identify the standard resources needed for each activity

Resources	Internal Medicine	Orthopedics	Total
Direct material	159594540	299756040	459350580
Direct labor	328897050	210307000	539204050
Indirect expenses	104884669	138558857	243443526
<b>Total</b>	<b>593478900</b>	<b>648740942</b>	<b>1242004361</b>

After estimating the standard resources for activities, the standard rates are calculated for each activity, as in Table (9) the following:

$$\text{Standard rate of activity} = \text{standard costs of activity} \div \text{activity cost driver}$$

***Calculating the standard rate***

Calculating the standard rate is shown in Table (9)

Table (9) standard rate

Internal Medicine				
Resources	Cost driver	Standard costs of activity (1)	activity cost driver (2)	Standard rate (1) ÷ (2)
Direct material	Number of patients	159594540	5840	27328
Direct labor	Number of working days	328897050	5110	64363
Indirect expenses	Number of patients	104884669	5840	17960
Orthopedics				
Resources	Cost driver	Standard costs of activity (1)	activity cost driver (2)	Standard rate (1) ÷ (2)
Direct material	Number of patients	299756040	8395	35706
Direct labor	Number of working days	210307000	2920	72023
Indirect expenses	Number of patients	138558857	8395	16505

***Calculating the variance of activity price***

In this step, the price deviation of the activity is calculated by multiplying the actual resources acquired for the activity by the standard price, and then the result is subtracted from the actual cost of that activity, after which the actual

costs (Actual Cost) are compared with the Flexible Cost and the statement of the price variance And the amount, and determining if the deviation is favor or un favor, as shown in Table (10) the following: price variance= actual cost - (actual resources \* adjusted standard price)

**Table (10)** Calculating price variance of activities

Internal Medicine					
Resources	Actual cost (1)	Actual resources (2)	Standard price(3)	Variance amount 1-(2×3)	Variance nature
Direct material	123517808	6340	35706	-1494054	Favor
Direct labor	260019389	2853	72023	-1191030	Favor
Indirect expenses	85920795	6657	16505	-20998323	Favor
Orthopedics					
Resources	Actual cost	Actual resources	Standard price	Variance amount	Variance nature
Direct material	224885135	6340	35706	-1494054	Favor
Direct labor	204290433	2853	72023	-1191030	Favor
Indirect expenses	88874972	6657	16505	-20998323	Favor

**Step Seven: Calculate the costs of activities**

In this step, the costs of the activities carried out are calculated by applying the following equation: Cost of flexible capacity resource applied=(Sri \*AW)\* SPi The costs of the activities carried out = (the standard price of the resource \* the work carried out) \* the acquired standard resource.

The costs of the activities carried out for activities are calculated through the following table (11):

**Table (11)** Calculating the costs of the activities

Internal Medicine				
Resources	Standard price (1)	Actual work (2)	Standard resource(3)	Activity costs (1)×(2)×(3)
Direct material	27328	340	16	148663407
Direct labor	64363	340	14	306369855
Indirect expenses	17960	340	16	97700788
Orthopedics				
Resources	Standard price (1)	Actual work (2)	Standard resource(3)	Activity costs (1)×(2)×(3)
Direct material	35706	317	23	260336068
Direct labor	72023	317	8	182650189

Indirect expenses	16505	317	23	120337418
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**Step eight: Calculate the quantity variance**

In this step, performance is measured, this step is not presented in the first and second editions of the ABC, as Flexible Budget and Applied Resources are taken into account in order to calculate the quantity variance using the following equation:

$$QV = (AQ * SP) - (SQa * SP)$$

whereas:-

QV: quantity variance

SQa: The amount of

AQ: actual resources quantity

standard resources for actual production

SP: standard price

The results of the activities were as Table (12) as follows: -

**Table (12)** Calculate the quantity variance of activities

Internal Medicine					
Resources	Actual resource(1)	Standard price(2)	Standard resource(3)	Variance amount(1×2)-(3×2)	Variance nature
Direct material	5100	27328	5440	-9291463	Favor
Direct labor	4080	64363	4760	-43767122	Favor
Indirect expenses	5100	17960	5440	-6106299	Favor
Orthopedics					
Resources	Actual resource (1)	Standard price (2)	Standard resource(3)	Variance amount (1×2)-(3×2)	Variance nature
Direct material	6340	35706	7291	-33956878	Favor
Direct labor	2853	72023	2536	22831274	Un Favor
Indirect expenses	6340	16505	7291	-15696185	Favor

It is noted that Internal Medicine activity is a desirable variance within all resources, as well as for the Orthopedics activity except for the wage resource, which was an undesirable variance.

**Step nine: Calculating the productivity of each activity**

In this step, the productivity of each activity is calculated from the following formula:

$$\text{Activity productivity} = \text{performance variance} + \text{effectiveness variance}$$

$$\text{Performance variance} = \text{price variance} + \text{quantity variance}$$

$$\text{Effectiveness variance} = \text{carried out activity cost} - \text{budgeted activity cost}$$

The productivity of activities can be found in the following table (13):

**Table (13)** Calculate the productivity of activities

Internal Medicine				
Resources	Effectiveness variance(1)	Performance variance(2)	Activity productivity (1+2)	Variance nature
Direct material	-36076732	-25145599	-61222331	Un Favor
Direct labor	-68877661	-46350466	-115228127	Un Favor
Indirect expenses	-18963874	-23992591	-42956466	Un Favor
Orthopedics				
Resources	Effectiveness variance(1)	Performance variance(2)	Activity productivity (1+2)	Variance nature
Direct material	-74870905	-35450933	-110321838	Un Favor
Direct labor	-6016567	21640244	15623677	Favor
Indirect expenses	-49683885	-36694508	-86378393	Un Favor

It is noted from the above that all activities are an un favor variance except for the direct wages resource in Orthopedics activity .

### CONCLUSIONS

The theoretical study showed that the first and second issuance of ABC neglected performance evaluation, which is the cornerstone of the evaluation in government entities. PFABC provides measures of variances for price quantity, efficiency and effectiveness of flexible resources, measures of budget and energy variances of committed resources, and assists in measuring the productivity of each activity component. PFABC provides a new quality of information related to the preparation of performance reports for each activity, enabling the management to define the activities that are performed in a correct manner and those performances should be reconsidered and thereby improve the efficiency and effectiveness of those activities.

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