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EVALUATING RESPONSIBILITY ACCOUNTING EFFECTIVENESS UNDER RESOURCE CONSUMPTION ACCOUNTING METHOD-A CASE STUDY IN THE STATE COMPANY FOR THE PHARMACEUTICAL INDUSTRY AND MEDICAL APPLIANCES / SAMARRA

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A B S T R A C T

The search aimed to identify the possibility of using the method of resource consumption accounting as one of the modern methods in allocating costs and measuring variances and the impact of these variances on the effectiveness of responsibility accounting in industrial companies through its production of appropriate information, The search dealt with the theoretical framework for resource consumption accounting method, the theoretical framework for the responsibility accounting system, In order to achieve the objective of the search and test its hypothesis, the General Company for the manufacture of medicines and medical supplies in Samarra was chosen as the subject of the study, The application of the resource consumption accounting method was tested on the company's data according to a case study in order to identify the contribution of the information resulting from this method to the effectiveness of responsibility accounting for the company under study, The search concluded that the resource consumption accounting method is one of the important methods for managing costs as a result of its ability to provide information to measure and identify.

K E Y W O R D S

Variances, Resource Consumption Accounting method, Responsibility Accounting

INTRODUCTION

Companies in the modern industrial environment face a range of challenges as a result of severe competition pressures and decision makers at all levels of management need appropriate, acceptable and timely information to reduce costs and therefore the existence of deviations in the company is unacceptable, Companies need appropriate information. This information requires careful cost measurement. and deviations represent the difference between actual results and results included in the planning budgets (Bhimani et al., 2015: 444), measuring deviations requires modern cost systems that accurately allocate costs. Traditional cost systems suffer from deficiencies in their inability to provide accurate information reflecting the real deviations of the company's resources, as well as inefficiencies and indicators in judging resource utilization performance and providing them with relevant information for decision-making (Mahmoud, 2017:2). There was therefore an urgent need to adopt modern management and accounting approaches and techniques to keep abreast of these developments in order to enable companies to achieve their objectives, including accounting for resource consumption, as it is one of the entry points for strategic cost management that contributes to the achievement of two corporate objectives which helps it to formulate its decisions precisely and competitively,

First, to contribute actively to the provision of accurate information on resources and related costs, as well as to the provision of precise foundations for the allocation of indirect costs that contribute to the allocation's objectivity,

Second, contributing to cost reduction by identifying and measuring inactive energy and associated costs as well as removing non-value-added activities under resources and activities (Malik and others, 2019:171),

Several studies (Mahmoud, 2017) (Okoye, 2009) (Obeid, 2021) have been interested in testing the possibility of harnessing the method of accounting for material consumption in determining cost deviations that can provide a basis for performance evaluation within the company's responsibility accounting system.

Given the importance of the responsibility accounting system, the importance of its centers for cost control and its contribution to the provision of accounting information in the form of performance reports that oversee the work of section officials and assess their performance within the framework of the responsibility assigned to them by senior management, the method of accounting for resource consumption can be used to operationalize accountability decisions.

The importance of research therefore comes from the importance and novelty of resource consumption accounting and its role in providing information to measure deviations and the impact of such deviations on the effectiveness of accountability accounting through the method's ability to provide more accurate cost and operational information on the allocation of available resources.

This research aims at achieving a major objective, namely, to ensure that the method of accounting for resource consumption can be used as an input into the provision of information to measure deviations and the impact of such deviations on the effectiveness of corporate accountability, and to test this possibility if it is applied in Iraq's environment.

While the limits of research are limited to the role of resource consumption accounting in accounting for responsibility by measuring deviations of the company in question, the limits of spatial research are limited to the General Company for Pharmaceutical and Medical Supplies in Samarra and for the period of time (2018).

2. Conceptual framework for accounting for resource consumption and accountability

2. 1. The formation and concept of accounting for resource consumption

In Europe, the German Cost Accounting System (GPK), which was constantly developed to access a cost system, contributed to the process of allocating indirect costs more accurately.

This system is based on the division of the company into a group of production and service resource pools as well as the classification of costs into fixed and proportionate costs and costs that form the basis of control and are allocated on the basis of the nature of each pool's outputs,

The German cost system was a rapid response to weaknesses and difficulties around the activity-based cost system (ABC), an attempt to provide accurate information on the cost of expendable resources with the possibility of identifying idle energy, and both systems provide information that is better suited than traditional accounting systems (Okutmus, 2015: 47-48).

As attempts continue to develop cost accounting systems and attempt to take advantage of the advantages of both ABC and GPK, a new concept was introduced in 2000, the Resource Consumption Accounting System is defined as an attempt to integrate information generated on expendable resources with activities under an integrated and comprehensive technology that provides cost responses under the cause-effect relationship and provides detailed and accurate information for decision-making (Malik, 2019:173).

The definitions for accounting for resource consumption included the following:

It is a resource-oriented input for cost allocation aimed at improving the activity-based cost system to enhance the cost management of the strategic system using resources as a key objective that enables the measurement of inactive resources to improve the accuracy of cost allocation and provides information on management's responsibility for evaluating performance, This helps in decision-making and enhances competitive advantage in the sense that it focuses on the decision-making perspective s competitive position (Wang, 2017:408 & Liu),

Defined as a management accounting system, which classifies costs as fixed and variable and supports management decision-making with real cost data by identifying idle energy (Okutmus, 2015:46), as well as defined by Al-Naimi as a cost management portal aimed at optimizing the utilization of the company's resources, by applying the principle of causation in the allocation of expendable resources to cost targets (Products) By focusing on resources as the starting point for all operations and the cause of costs, to provide appropriate information on how to optimize the utilization of available resources, employ inactive energy which contributes to increased productivity, lower product cost and support competitive position (Al-Naimi, 2021:75).

The researchers see a forward-looking entry focused on achieving the best cost allocation through in-kind flow of resources based on quantities and based on the requirements of cost measurement subjects and in accordance with the client's resource wishes and managing resource planning and managing inactive energy by taking into account the interrelationships between resources and each other in preparation for the accountability of those responsible, Better information to assist management in decision-making with a view to rationalizing resource management while reducing resources that do not add value as well as increasing revenues to maximize profitability and support the company's competitive position.

2. 2. Resource Consumption Accounting: Resource Consumption Accounting is based on three main components (Shaswar and Mustafa, 2022:325):

a. Resources: RCA focuses primarily on resources from a holistic perspective and provides clear insights for managers on the energy used and the efficiency of its use And according to that pillar, resources are classified within the resource pools, to rely on the idea that resource pools should include the costs associated with each type of resource and each center's resources must be uniform and under the responsibility of only one director, By pooling resources around a simplified output scale, cost centers have become easier to manage.

b. Nature of cost: RCA is based on the fact that the underlying cause of cost occurrence is resource consumption through resource depletion and cost behavior pattern and the input distinguishes between two key cost dimensions, the first being the initial nature of the cost, whether fixed or variable costs, The second is the potential nature of variable costs, which explains the likelihood of a relative change in costs at the point of consumption. Therefore, the method of allocating costs must be linked to resource consumption models, addressing the nature of variable costs, either variable costs or fixed costs.

C. Using the cost model on a quantitative basis: The input (RCA) depends on measuring resource outputs in the form of quantitative units of direct working hours, number of machine turnover hours and other foundations. The planned and actual cost is allocated to different cost units on the basis of what consumed a quantity of these resources taking into account the causal relationships between actual resources.

2. 3. The importance of accounting for resource consumption:

Accounting literature has set many objectives for the RCA input, the most important of which are:

a. The method of accounting for resource consumption is a cost management accounting tool that aims to provide appropriate information on how to efficiently utilize available resources and employ surplus idle energy, thereby contributing to increased productivity and lower product cost, thereby increasing the company's profits and supporting its competitive position (Abbas, 2020:870).

b. Provide control over the use of resources by tracking the quantities of resources used and not used and identifying inactive and continuously restricted capacities to optimize the utilization of the company's available resources (Abu Sha 'aisha, 423:2016).

c. Resource consumption accounting highlights the potential of resources to create value added for the customer both through optimal utilization of the interchangeable and non-interchangeable relationships between resources and activities and between resources and each other (Alkayadi, 2019:864).

d. Women's Study the impact of the nature of the cost on resource consumption according to two factors: the basic nature of the cost and the potential nature of the variable cost (Al-Hussein, 2016:27).

e. Provide accurate and fair measures of performance by analyzing deviations and separating the amount of resources consumed from the corresponding value, thereby providing more credible and objective information in analyzing deviations which contributes to the effective application of the principles of accountability for all company functions (Al-Saied., 2019:28).

In the view of the researchers, the main objective of the resource consumption accounting input is to optimize the utilization of the resources available to the company, whether human or material, and to strengthen the utilization of inactive energy in order to reduce the cost of products and thereby increase the company's profitability and competitiveness.

2. 4. The concept of accountability of responsibility:

accountability of responsibility is a comprehensive operational system that links administrative management with the accounting system by dividing the project into centers of responsibility that help link performance to those responsible for such performance through an integrated reporting system that relies on the application of the principle of oversight with exception, thus assisting in the processes (planning, organization, oversight and evaluation of performance);

Today's companies are characterized by complex organizational structures that are difficult to manage centrally "The responsibilities and delegation of authority for making and implementing all decisions relating to the management of financial resources have to be defined. Accordingly, each manager is given the powers and authorities to manage the activity and carry out the required efficiently and effectively. and at the same time responsible for its consequences (Adam, 2020:1),

The definitions of accountability for responsibility have been varied, defined as a management control system based on the principles of delegation of responsibility and positioning The authority is delegated to the Centre of Responsibility and Accountability for the Centre's performance; Under which managers are given decision-making authority and responsibilities for each activity occurring in a particular area of the company sector activities (Fowzia, 2001:54),

It defined it (earning) as a system that, in the light of the concept of decentralization, provides accounting information on managers' performance in the sections through performance reports based on comparison of actual performance with the scheme with a view to identifying deviations (preferred or not preferred) and linking them to the company's responsible persons, within the authority granted and within the cost and controlled income (earning, 2007:5).

In the researchers' view, it is a management accounting method aimed primarily at strengthening performance control by linking the responsibility for expenditure and income to the different managerial levels of the organizational structure under the planning budget, Performance control reports can be issued in comparison with the blueprint for each center of responsibility for deviations ", which enables the timely and accurate identification of responsibility for deviations, accounting for responsibility is the basis for the success of the decentralized management system.

2. 5. The importance of accountability: The importance of accountability stems from the fact that it is part of the internal control system that serves the planning and control processes of the resources available to the company to achieve both efficiency and effectiveness. Moreover, it is a tool that evaluates the performance of the company's divisions (Al- Dalahama, 2008: 324), the importance of the system comes from the company's performance control processes, Through procedures whereby actual implementation is followed up under planned performance In the sense that censorship begins at the beginning of the actual implementation and continues with it for the purpose of detecting deviations, identifying the persons responsible for them, taking the necessary action to correct them in a timely manner and then identifying the reasons for their occurrence and reporting them to the different administrative levels to make appropriate decisions about them (Ahmed and Mansour, 2019:19).

The two researchers consider the importance of the responsibility accounting system to be the primary management of oversight and therefore the essence of oversight to help it increase the effectiveness of oversight because it relies on the principle of dividing the company into parts to make oversight of these parts more objective, accurate and fair.

2. 6. Importance of cost system information in evaluating the performance of responsibility centers

The importance of cost information lies in evaluating performance by measuring actual performance against planned performance and analyzing deviations. Measuring the actual performance of managers of responsibility centers requires the provision of actual data to be measured, the measurement process arises as activities start in the company, and all branches of accounting, including cost accounting, affect the actual measurement process. After the completion of the accounting system and the determination of actual performance, the actual performance is linked to the planned performance of the responsibility centers, Its costs, which have arisen and have been influenced by major decisions, are allocated to it in accordance with the control's cost, Each center shall have its own planned and actual cost and thus facilitates the process of measuring performance, and is summarized in the performance report, which shows amounts of planned and actual key financial results appropriate to the type of position of responsibility and thus reflects the merit of its manager's management (Amar, 2011:62), the deviation between actual and planned performance, which may or may not be preferred, is analyzed. In both cases, this is a deviation from the scheme. The occurrence of such deviations is due to two reasons (inaccuracy in planning rates and performance criteria, inefficiency in actual implementation) (Jawdah & Al-Soboa, 2009: 31-32). In the light of these deviations, the effectiveness of these centers is judged.

In the view of the researchers, the method of accounting for resource consumption measures the cost objectively and realistically against other systems, and thus the performance of the company's cost positions is measured in the performance reports against actual costs. (measured by the method of accounting for resource consumption) with planned costs, this results in accurate detection of deviations, mainly in the decision-making process, which affect the judgement of the performance and effectiveness of the cost positions.

3. Applied aspect

The applied aspect of the research is to conduct a case study on the General Company of Pharmaceutical and Medical Supplies in Samarra in order to test the search hypothesis through the application of the resource consumption accounting system in the company in question. The application of the resource consumption accounting system results in information that helps the company to activate responsibility accounting decisions by properly measuring costs The products of the eye drops department were selected from the company departments,

3. 1. Steps to Apply Resource Consumption Accounting in the Company

Resource consumption accounting is applied according to the following steps:

1. Identification of available resources spent on products: First, the available resources disbursed on the products of the Eye Drops Section, which consists of 13 products, and table (1) shows the resources consumed during this period:

Table 1 Costs incurred during the year (2018) on products

Prices /Dinar/	Statement
378,498,056	Raw materials and ores
258,674,050	Direct wages
157,105,480	Indirect salaries and wages
30,854,427	Extinction
11,915,736	Packaging Materials
12,225,000	Oils & Greases
10,458,045	Electricity
15,650,000	Fees
2,930,240	Workers' Equipment
43,140	Hospitality
7,436,401	Maintenance Services
17,360,732	Fuel and oil
5,019,938	Stationery
4,474,339	Standby Tools
5,890,900	Lease of fixed assets
8,057,421	Publicity and Advertising
3,340,000	Research & Consulting
1,199,497	Miscellaneous service expenses
3,290,860	Transport, dispatch and communication
4,195,507	Water
15,625,535	Marketing and selling expenses
17,197,880	Administrative expenses
971,443,184	Total

Source: Table of researchers' preparation based on data provided by the company

The amounts disbursed in Table (1) were extracted through the company's records (Samarra Pharmaceutical Lab) for the year (2018) of the Eye Drops Department and represents a starting point in the cost system, and the company management seeks to optimize them in order to obtain the highest productivity.

2. Identification of resource pools: resource pools are identified through the pooling of homogeneous resources with similar features in special pools, as shown in table (2) below:

Table 2 Inventory and identification of resources in appropriate complexes

Cost	Sources	Sources Groups	No
378,498,056	Direct ores and materials	Direct Material	1
258,674,050	Direct wages	Direct Action	2
11,915,736	Packaging Materials	Indirect materials	3
12,225,000	Oils & Greases		
157,105,480	Indirect salaries and wages	Indirect work	4
30,854,427	Extinction	Driving Forces	5
4,195,507	Water		

10,458,045	Electricity		
4,474,339	Standby Tools		
17,360,732	Oil Materials		
2,930,240	Workers' Equipment	Equipment	6
5,019,938	Stationery		
8,057,421	Publicity and Advertising	Research & Development	7
3,340,000	Research and consulting expenses		
2,230,920	Maintenance of buildings	Maintenance Services	8
4,461,841	Maintenance of machinery and equipment		
594,912	Maintenance of transportation		
148,728	Maintenance of office furniture and equipment		
15,625,535	Marketing expenses	Administrative and marketing expenses	9
17,197,880	Administrative expenses		
1,974,616	Relocation of workers	Transport, dispatch and communication	10
750,250	Public contacts		
43,140	Hospitality		
15,650,000	Fees		
565,994	Travel and Dispatches		
5,890,900	Lease of fixed assets	Other Service Supplies	11
1,199,497	Banking Services		
971,443,184	Total		

Source: Table of the researchers' preparation based on data provided by the company.

In table 2, resources have been grouped within homogeneous pools based on their interrelationships in terms of technology, skills or cost components. Resource characteristics should be combined and result in homogeneous resource pools, as well as to eliminate the complexity of the company.

3. Identification of elements of direct costs to products: Direct costs are addressed in the accounting of resource consumption by charging them directly to the cost objective (s), so the elements of direct costs (direct substances and direct wages) disbursed to each product have been identified on Centileter basis, as shown in table (3) below:

Table (3) Identification of direct costs on products for (2018)

Unit manufacturing cost rate (centileter)	Direct manufacturing cost	Unit (Centilitre)	Product name	Raw
2802	44‹543‹394	15897	Barzlon	1
2750	44,981‹750	16357	Janden	2
3859	70‹631‹277	18303	Samaficol 0.5	3
2593	50‹309‹386	19402	Methadine	4
3999	70‹410‹393	17607	Methadine N	5
2142	33‹648‹678	15709	Nazordin 0.5	6
2434	35‹219‹980	14470	New Dixon	7
1956	38‹924‹400	19900	Nassovrin	8
2860	55‹998‹800	19580	Zankou- slef	9
2609	46‹972‹436	18004	Timosam 0.25	10
2979	55‹418‹337	18603	Timosam 0.5	11
2681	45‹778‹075	17075	Cyprosam 0.3	12
2730	44‹335‹200	16240	Dixon	13
2805	637,172,106	227147	Total	

Source: Table of the researchers' preparation based on data provided by the company.

In Table (3), distribution is based on the quantity of the product (Centeliter). It is the Company's measurement unit. The figures mentioned in the field of direct cost of manufacture were reached through the collection of the value of direct materials and direct wages of the product. The figures listed in the field of manufacturing cost rate of the unit were reached through the following formula: The product's share of direct costs = the direct manufacture cost of the product ÷ the quantity of the product, meaning that direct costs are addressed by charging them directly to the cost target (products)

4. Separation of prorated and fixed costs in resource pools: costs in each resource pool are segregated into fixed and variable and, in accordance with cost behavior, there are costs that are unchanged by the volume of production and are fixed during the financial period, Variable costs when the amount of inputs from expendable resources changes in proportion to the volume of production or so-called prorated costs and therefore fixed and proportionate costs in resource pools will be determined as follows:

Table (4) Fixed and proportionate cost segregation

Total	Proportionate Costs	Fixed costs	Sources	Sources groups
11,915,736	11,915,736	-	Packaging Materials	Indirect materials
12,225,000	12,225,000	-	Oils & Greases	
24,140,736	24,140,736	-	total	
75,410,630	11,311,595	64,099,035	Workers in Production Services	Indirect work
69,126,411	-	69,126,411	Staff in the Department	
12,568,439	-	12,568,439	Marketing Workers	
157,105,480	11,311,595	145,793,885	Total	
30,854,427	-	30,854,427	Extinction	Driving Forces
4,195,507	4,027,687	167,820	Water	
10,458,045	9,935,143	522,902	Electricity	
4,474,339	4,474,339	-	Standby Tools	
17,360,732	17,360,732	-	Oil Materials	
67,343,050	35,797,901	31,545,149	Total	
2,930,240	1,787,446	1,142,794	Workers' Equipment	Equipment
5,019,938	4,644,296	375,642	Stationery	
7,950,178	6,431,742	1,518,436	Total	
8,057,421	-	8,057,421	Publicity and Advertising	Research & Development
3,340,000	-	3,340,000	Research and consulting expenses	
11,397,421		11,397,421	Total	
2,230,920	-	2,230,920	Maintenance of buildings	Maintenance
4,461,841	1,472,408	2,989,433	Maintenance of machinery and equipment	
594,912	-	594,912	Maintenance of transportation	
148,728	-	148,728	Maintenance of office furniture and equipment	
7,436,401	1,472,408	5,963,993	Total	
15,625,535	5,781,448	9,844,087	Marketing expenses	Administrative and marketing expenses
17,197,880	-	17,197,880	Administrative expenses	
32,823,415	5,781,448	27,041,967	Total	
1,974,616	-	1,974,616	Relocation of workers	
750,250	-	750,250	Public contacts	

43,140	-	43,140	Hospitality	Transport, Dispatches and Communications
15,650,000	-	15,650,000	Fees	
565,994	-	565,994	Travel and Dispatches	
18,984,000	-	18,984,000	Total	
5,890,900	-	5,890,900	Lease of fixed assets	Other Service Supplies
1,199,497	-	1,199,497	Banking Services	
7,090,397	-	7,090,397	Total	

Source: Table of the researchers' preparation based on the company's submissions.

Table 4 researchers allocated costs to appropriate resource pools and the classification of costs in each resource pool into constant and proportionate. This step is one of the main pillars of the resource consumption accounting process. It helps to extract variable cost rates through practical energy and fixed cost rates through theoretical energy and thus enables the identification of idle energy by separating fixed costs that do not add value to the company's core activities and keeping them in resource pools if the cost of the period is considered and the activities are charged at variable costs and fixed costs utilized

5. Determining the causes of resources for each resource pool: The appropriate causes for each pool of resources are identified as the quantified measure of the volume of outputs and projected resources, as well as the amount of resources to be spent in each pool of resources from reaching a certain volume of outputs. This is the application of one of the principles of the method of accounting for resource consumption, which is the principle of causation, which can be explained through the following table:

Table (5) Cost causes for resource pools

Cost-generating	Resource pool
Quantity of materials (centileter)	Indirect materials
Direct working hours	Indirect work
Machine operating hours	Driving Force
Number of workers	Equipment
Quantity of materials (centileter)	Research & Development
Maintenance Hours	Maintenance Services
Number of days	Administrative and marketing expenses
Quantity of materials (centileter)	Transport, Dispatches and Communications
Quantity of materials (centileter)	Other Service Supplies

Source: Table of the researchers' preparation based on data provided by the company.

Based on table 5, the two researchers consider that the specific cost causes are appropriate and consistent with the nature of the resource pools. In the light of these causes, theoretical energy, its costs, practical energy and its costs, as well as the special rates of theoretical and practical energy, are determined.

6. Theoretical and practical capacities and resource pool rates: resource pools' capacities and constant and proportional ratios are determined, resource consumption accounting being theoretical energy (Design) of the company mainly to determine the fixed cost of the products, which means that the fixed indirect industrial costs identified for the activities are ultimately related to theoretical energy rather than actual production (Practical energy) achieved during the specified period which represents the projected demand for the output of resource pools tailored to the product's demand. In this way, untapped energy can be exploited whether it is idle, surplus or lost. Table (6) includes the theoretical and practical energy of resource pools, as follows:

Table 6 Identification of theoretical and practical capacities and resource pool ratios

7	6	5	4	3	2	1	
Total Ratio 5+6	Prorated cost rate (3/4)	Fixed cost rate (1/2)	Practical energy costs	Practical Energy	Theoretical energy costs	Theoretical Energy	Resource pools
116m/ Centeliter	116m/ Centeliter	-	24,140,736	208,000 Centeliter	-	292,000 Centeliter	Indirect Material
1,202m/ Centeliter	145m/ Centeliter	1,057m/ Centeliter	11,311,595	78,260Hour	145,793,885	137,970Hour	Indirect Work
686m/ Centeliter	457 m/ Centeliter	229 m/ Centeliter	35,797,901	78,260Hour	31,545,149	137,970Hour	driving force
169,821M/worker	149,575 m/worker	20,246 M/worker	6,431,742	43worker	1,518,436	75worker	Equipment
39m/ Centeliter	-	39 m/ Centeliter	-	208,000 Centeliter	11,397,421	292,000 Centeliter	Research & Development
449 m/ hour	116 m/ hour	333 m/ hour	1,472,408	12,740Hour	5,963,993	17,885Hour	Maintenance Services
96,324 m/ day	22,236 m/ day	74,088m/ day	5,781,448	260Day	27,041,967	365day	Administrative and marketing expenses
65 m/ Centeliter	-	65m/ Centeliter	-	208,000 Centeliter	18,984,000	292,000 Centeliter	Transport, Dispatches and Communications
24 m/ Centeliter	-	24m/ Centeliter	-	208,000 Centeliter	7,090,397	292,000 Centeliter	Other Service Supplies

Source: Table of researchers' preparation based on results and company data.

Table (6) has been prepared based on tables (4) and (5) in terms of the adoption of cost causes and resource pools and the extraction of fixed cost rate based on theoretical energy and energy costs, according to the following formula:

Fixed cost rate = fixed costs ÷ theoretical energy.

The prorated cost rate is extracted based on the practical capacity and costs of the operation, according to the following formula:

Variable cost rate = variable costs ÷ practical energy.

Thus, the overall rate has been reached, and the quantification of resource outputs (causes of resource cost) is explained:

The number of days of the year for design theoretical energy (365 days) and materials used per day at the rate (800 centiliters) in the company is raw materials used in the production process. This figure represents the daily rate used according to the energy of the company and customer requests in the department of eye drops:

(365 × 800 = 292,000 centiliters theoretical/design energy)

The company operates (5 days a week) and the number of weeks during the year (52 weeks), thus the number of working days per year (260 days):

(260 × 800 = 208,000 centiliter operation power)

Direct working hours (7 hours) per day, and number of employees in the department (54 workers):

(7 × 365 × 54 = 137,970 hours theoretical energy work).

(7 × 260 × 54 = 98,280 hours of operation energy per year).

Direct working hours for production activities:

32 workers in production lines + 11 workers in packaging = 43 workers.

So direct hours 43 × 7 × 260 = 78,260 hours actual power (process) for production.

Number of workers required by theoretical energy = theoretical energy hours × Number of workers/actual working hours 137,970 × 54/98,280 = 75 workers.

In the maintenance complex theoretical maintenance hours: 7 × 365 × 7 number of workers = 17,885 hours.

Operational maintenance hours: 7 × 260 × 7 = 12,740 hours.

7. Identification and allocation of resource pools' costs to activities: The resource pools consumed will be determined in accordance with the activities and thereafter the costs of the pools will be allocated to the activities through resource drivers, if the costs collected in each resource pool will be apportioned to the extent that the activities are consumed from those resources.

a. " Identification of expendable resources by activities from resource pools: This step identifies expendable resources by activities from resource pools as in table (7) as follows:

Table (7) Resources consumed through activities from resource pools

Marketing and administrative expenses	Maintenance Services	Equipment	Driving Force	Indirect work	Indirect materials	Sources / Activity
24	2100	4	7280	7280		Production Management
18	2100	3	5460	5460		Communications
12	2100	2	3640	3640		Handling
91	2100	15	27300	27300		Operating
36	2100	6	10920	10920		Transport
12	2100	2	3640	3640		Storage
67	2100	11	20020	20020	208,000	Packaging

Source: Table of researchers' preparation based on results.

In table 7, resources consumed by activities have been identified for all (Centiliter) The packaging is assigned to this activity, and for the indirect work complex the share of each activity of hours depending on the number of workers in each activity above (4, 3, 2, 15, 6, 2, 11) factor respectively and corresponding working hours during the year (7 × 260 × 4 = 7280)... (7280, 5460, 3640, 27300, 10920, 3640 and 20020). For the maintenance complex, its hour was consumed equally between activities, and the marketing and administrative expenses pool by number of days per year but by share of the activity from days of the year depending on number of workers (260 ÷ 43 × 4 = 24)... (2467 ،12 ،36 ،91 ،12 ،18 ،).

b. Determination of the costs of activities consumed by resources:

In this step, the costs of activities consumed by resources are determined in accordance with the preceding two steps and as shown in table (8) as follows:

Table 8 Distribution of resource costs to activities

Total	Marketing and administrative expenses	Maintenance Services	Equipment	Driving Force	Indirect wages	Indirect materials	Source / Activity
17،678،600	2,311,776	942,900	679,284	4,994,080	8,750,560		Production Management
13،494،675	1,733,832	942,900	509,463	3,745,560	6,562,920		Communications
9،310،750	1,155,888	942,900	339,642	2,497,040	4,375,280		Handling
63،798،099	8,765,484	942,900	2,547,315	18,727800	32,814,600		Operating
26،046،450	3,467,664	942,900	1,018,926	7,491,120	13,125,840		Transport
9،310،750	1,155,888	942,900	339,642	2,497,040	4,375,280		Storage
71،190،399	6,453,708	942,900	1,868,031	13,733,720	24,064,040	24,128,000	Packaging
210،829،723	25,044,240	6,600,300	7,302,303	53,686,360	94,068,520	24,128,000	Total

Source: Table of researchers' preparation based on results.

Amounts based on Table (6) and Table (7) have been extracted in Table (8) for each activity by multiplying the theoretical and practical rates of resource consumption according to each pool, according to the following formula: activity cost = activity share of × resources (fixed cost rate + variable cost rate).

8. Distribution of activity costs to products: In this step, the activities costs are distributed to the products, but we will first identify the triggers of activities so that loading rates are extracted. Table (9) shows the causes of activities and loading rates as follows:

Table 9 Identification of costs and causes of activities

Activity Load Rate	Unit	Triggers of activities	Costs	Activities	Row
80	220,983	Planned Production Volume	17‹678‹600	Production Management	1
1,808	7,464	Number of hours	13‹494‹675	Communications	2
3,888	2,395	Number of handling meals	9‹310‹750	Handling	3
27,678	2,305	Number of operating hours	63‹798‹099	Operating	4
1,877	13,877	Number of hours	26‹046‹450	Transport	5
3,940	2,363	Number of orders for disposal and receipt of materials	9‹310‹750	Storage	6
3,851	18,486	Number of batches of total production	71‹190‹399	Packaging	7

Source: Table of the researchers' preparation based on results and data provided by the company.

In Table (9) activities (Production Department, Communications, Handling, Operation, Transportation, Storage, Packaging) and their own costs were identified. Activity costs were obtained through Table (8), the reasons for the activities through an interview with the specialists of the company in question, and the activity load rate through the following formula: loading rate = costs allocated in the activity complex ÷ the cause of activity.

In order to be a basis for charging costs to the purpose of the cost (s), and after determining the causes and rates of activities, the costs of activities are apportioned to the products, as in table (10) below:

Distribution of activity costs to product Table 10

Total	Other Service Supplies	Transport, Dispatches and Communications	Research & development	Activity							Unit Centiliter	Product name
				Packaging	Storage	Transport	Operating	Handling	Contacts	Production management		
16‹789‹865	381‹528	1‹033‹305	619‹983	4‹982‹239.91	651‹580.551	1‹822‹921.77	4‹464‹921.25	651‹688.328	944‹448.38	1‹237‹248.74	15897	Barzlon
17‹275‹701	392‹568	1‹063‹205	637‹923	5‹126‹407.38	670‹434.866	1‹875‹670.33	4‹594‹119.45	670‹545.763	971‹777.197	1‹273‹050.11	16357	Janden
19‹330‹999	439‹272	1‹189‹695	713‹817	5‹736‹298.49	750‹196.818	2‹098‹819.72	5‹140‹684	750‹320.909	1‹087‹389.99	1‹424‹505.49	18303	Samavekol
20‹491‹725	465‹648	1‹261‹130	756‹678	6‹080‹733.39	795‹242.238	2‹224‹842.93	5‹449‹355.35	795‹373.778	1‹152‹682.11	1‹510‹039.64	19402	Methadine
18‹595‹908	422‹568	1‹144‹455	686‹673	5‹518‹166.83	721‹669.42	2‹019‹008.83	4‹945‹201.51	721‹788.79	1‹046‹040.3	1‹370‹336.45	17607	Methadine N
16‹591‹306	377‹016	1‹021‹085	612‹651	4‹923‹319.3	643‹874.874	1‹801‹363.66	4‹412‹118.52	643‹981.376	933‹279.206	1‹222‹616.88	15709	Nazordin 0.5
15‹282‹717	347‹280	940‹550	564‹330	4‹535‹007.33	593‹091.185	1‹659‹286.53	4‹064‹125.96	593‹189.287	859‹669.626	1‹126‹186.66	14470	New Dixon
21‹017‹696	477‹600	1‹293‹500	776‹100	6‹236‹810.36	815‹654.083	2‹281‹948.99	5‹589‹226.44	815‹789	1‹182‹268.53	1‹548‹798.51	19900	Nassovrin
20‹679‹723	469‹920	1‹272‹700	763‹620	6‹136‹519.95	802‹538.039	2‹245‹254.33	5‹499‹349.44	802‹670.785	1‹163‹257.17	1‹523‹893.21	19580	Zankou slaf
19‹015‹206	432‹096	1‹170‹260	702‹156	5‹642‹589.63	737‹941.513	2‹064‹533.15	5‹056‹705.17	738‹063.574	1‹069‹626.26	1‹401‹234.59	18004	Timosam 0.25
19‹647‹849	446‹472	1‹209‹195	725‹517	5‹830‹320.76	762‹493.112	2‹133‹220.95	5‹224‹943.71	762‹619.234	1‹105‹213.13	1‹447‹854.21	18603	Timosam 0.5
18‹046‹151	409‹800	1,109‹875	665‹925	5‹351‹434	699‹863.994	1‹970‹126.71	4‹795‹780.99	699‹979.757	1,014‹433.92	1‹328‹931.39	17075	Cyprosam 0.3
17‹139‹693	389‹760	1,055‹600	633‹360	5,090,551.67	666,169.31	1,849,452.10	4,561,567.21	664‹739.41	964‹589.19	1‹263‹904.11	16240	Dixon
239‹904‹539	5,451,528	14,764,555	8‹858‹733	71‹190‹399	9‹310‹750	26‹046‹450	63,798‹099	9‹310‹750	13‹494‹675	17,678,600	227147	Total

Source: Table prepared by researchers based on the results

Table 10 shows the share of each of the products of the Eye Drops Section in total indirect industrial costs, which are the sum of each of the following activities (production management, communications, handling, operation, transportation, storage, packaging) and distributed to the products using loading rates and cause of activities according to the following formula: product share of costs = loading rate * cause of activity.
Total resources (Research &Development, transport, dispatches, communications, other service supplies)
The share of the product's resource costs was determined by the quantity of the product. The share of the rate for the cost of research and development (39), transportation, dispatches, communications (65) and other service supplies (24), as shown in table (6), was apportioned to the products by the following formula: the share of the product in costs = the quantity of the product * the total rate of the resource pool.

9. Allocation of costs according to the method of accounting for resource consumption: In this step, the actual costs realized are compared with the costs apportioned according to the method of accounting for resource consumption for the purpose of determining the cost and proportion of idle energy, which represents the difference between actual and distributed costs, as shown in table 11 below:

Table (11) Determination of the costs and proportion of idle energy

Ratio of idle (1/3) power	Idle Energy 3=(2-1)	Apportioned costs (2)	Actual realized costs (1)	Resource pool
0،000527	12,736	24,128,000	24,140,736	Indirect Materials pool
0.40	63,036,960	94,068,520	157,105,480	Indirect Work pool
0,20	13,656,690	53,686,360	67,343,050	Driving force pool
0,08	647,875	7,302,303	7,950,178	Equipment
0,22	2,538,688	8,858,733	11,397,421	Research & Development
0,11	836,101	6,600,300	7,436,401	Maintenance Services
0,24	7,779,175	25,044,240	32,823,415	Administrative and marketing expenses
0,22	4,219,445	14,764,555	18,984,000	Transport, Dispatches and Communications
0,23	1,638,869	5,451,528	7,090,397	Other Service Accessories
0,28	**94,366,539**	**239،904،539**	**334،271،078**	**Total**

Table: Researchers' preparation based on results.

In table 11, the ratio and costs of idle energy at the level of each resource pool are determined by the following formula:
Unemployed energy value = actual realized costs - distributed costs.
Ratio of inactive energy = value of inactive energy ÷ actual realized costs.
Table 11 shows the total proportion of idle energy (28%), and these costs will not be charged to the product because these costs are the costs of inactive resources and have not been used in production.

3. 2. Comparison between the traditional system and the method of accounting for resource consumption:

The actual indirect industrial costs in the traditional system (334,271,078 dinars), as shown in table 11, are therefore the share of the product in indirect industrial costs according to the following formula: the share of the product = indirect industrial costs ÷ the total quantity of products.
(334,271,078 ÷ 227,147 = 1472 dinars)
The indirect industrial costs apportioned in the method of accounting for resource consumption (239,904,539) were as shown in table 10. Therefore, the share of the product in the indirect industrial costs is: (239,904,539 ÷ 227,147 = 1056 dinars)

Thus, the difference between the traditional system and the method of accounting for resource consumption is:
(1472-1056 = 416), noting that the reason for the reduction in indirect industrial costs to this level is the result of the application of the resource consumption accounting method in the company in question.

3. 3. Evaluation of the performance of the responsibility and decision-making centers:
To implement the performance appraisal process, there must be a set of criteria that can guide the evaluation of the performance of the company's responsibility centers, so that they are appropriate to the nature of the activity of each responsibility center. The criteria for evaluating the cost position are the elements of the costs controlled by the responsibility center, which are:
1. Direct material cost: This cost deviations are assessed by comparing actual material with standard during a significant period.
2. Direct wage cost: Employment efficiency is assessed by comparing actual wage cost to standard over a significant period of time.
3. Indirect industrial cost and efficiency is measured by comparing the actual of them to the standard during a significant period.
Thus, the cost criterion depends on cost deviations to judge performance in order to better judge the centers' performance and effectiveness, the cost measurement in these centers and the standard adopted must be more accurate, At this stage, the reports required by the performance appraisal process are prepared. Performance reports are the cost centers as outputs of the responsibility accounting system as they contain accounting, financial and normative data for various direct and indirect cost centers, The deviations between the actual and planned performance of the centers of responsibility reflect the demonstration of the responsibility center officials' skill in using the powers and responsibilities conferred upon them.

1. Measuring performance according to the traditional system: The performance of the head of the eye drops department is measured according to the traditional system of the company by matching the actual costs (Direct materials, direct wages, indirect industrial costs), as shown in the table (2) and table (11), measured by the traditional system with the planned costs obtained by meeting the specialists of the company in question, to extract the value and ratio of deviations, as shown in the report shown in table (12) below:

Table 12 Report of the Head of the Eye Drops Department according to the traditional system

Ratio of Deviation	Deviations	scheme	Actual	Statement
%8	(27،898،056) Un-preferred	350،600،000	378،498,056	Direct Material
%11	(24،674،050) Un-preferred	234،000،000	258،674،050	Direct wages
%58	(123،271،078) Un-preferred	211،000،000	334،271،078	Indirect industrial costs
%22	**(175،843،184)** Un-preferred	**795،600،000**	**971،443،184**	**Total**

Source: Table of the researchers' preparation based on results and data provided by the company.

In table 12, the ratio and value of deviations are measured according to the following equations: the value of deviations (preferred or not preferred) = actual costs - planned costs.
The ratio of deviations was extracted through the following formula: ratio of deviations = value of deviations ÷ planned costs.
From the report shown in table 12, it is clear that the performance of the Chief of the Eye Drops Section, relying on the traditional system of cost allocation, is not at the required level, because the value and percentage of deviations are high, especially the deviation of indirect industrial costs, because the traditional system is unable to allocate costs accurately and fairly.

2. Measuring performance according to resource consumption accounting method: The performance of the head of eye drops department is measured according to resource consumption accounting method by matching actual costs (Direct materials, direct wages, indirect industrial costs), as shown in the table (2) and table (10), as measured by the method of accounting for resource consumption against planned costs, to extract the value and ratio of deviations, as shown in the report shown in table (13) below:

Table 13

Report of the Head of the Eye Drops Department according to the method of accounting resource consumption

Deviation Percentage	Deviation	Scheme	Actual	Statement
%8	(27،898،056) Un-preferred	350،600،000	378،498,056	Direct material
%11	(24،674،050) Un-preferred	234،000،000	258،674،050	Direct wages
%14	(28،904،539) Un-preferred	211،000،000	239،904،539	Indirect industrial Costs
%10	(81،476،645) Un-preferred	796،600،000	877،076،645	Total

Source: Table of researchers' preparation based on results and company data.

From the report shown in table 13, it is clear that the performance of the Chief of the Eye Drops Section, relying on the method of accounting for resource consumption in allocating indirect industrial costs, has changed from that of the traditional system, because the value and percentage of deviations has changed by the decrease after the value of deviations for indirect industrial costs in the traditional system (123,271,078) Its proportion (58%) has become (28,904,539) and its proportion (14%), and the performance of the Director of this section is thus judged better than in the past by relying on the deviations outlined in the reports.
Thus, after the findings, the hypothesis was accepted that differing deviations according to the method of accounting for resource consumption had an impact on the effectiveness of accountability.

4. Conclusions

The method of accounting for resource consumption from important cost management systems is the result of its ability to track inactive energy for the purpose of reducing its ratio. The method of accounting for resource consumption from important cost management systems is also a result of its ability to provide information that helps detect deviations at an early time, thus allowing managers to take corrective action

or exploit available opportunities. As well as providing information according to the method of accounting for resource consumption, it helps measure deviations that contribute to rationalizing management's decisions. Deviations after the use of resource consumption accounting method (10%), while deviations before the application of resource consumption accounting method (22%), this information directs management to make decisions in order to judge the effectiveness of the company's responsibility positions.

The unemployed energy ratio was 28%, an information that helps the company's management to dispose of it or exploit it to improve performance. Based on the findings, there is a need to develop the traditional system of the company in question, which is no longer commensurate with today's business environment. As well as the need to take advantage of the application of resource consumption accounting in the company in question in order to manage costs because it provides information that helps detect deviations and thereby increase the effectiveness of the company's responsibility positions and reduce costs. Finally, the method of accounting for resource consumption should be applied in the company in question, as it is working to provide information to the company's management on inactive energy with a view to improving and exploiting it.

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