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THE ROLE OF ACHIEVEMENT ACCOUNTING IN COST MANAGEMENT AND RATIONALIZATION OF OPERATIONAL DECISIONS (AN APPLIED STUDY IN THE STATE COMPANY FOR ELECTRICAL INDUSTRIES)

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Abstract: -

The research aims to address the theoretical framework for achievement accounting with an indication of the possibility of its application in economic units in order to manage costs and rationalize operational decisions in a manner consistent with the rapid and successive changes accompanying the modern manufacturing environment. The following hypothesis has been presented: The application of achievement accounting in economic units can help them in managing costs and rationalizing operational decisions. The research sample is the General Company for Electrical Industries, for the data for the fiscal year ending on December 31, 2019. The research reached a set of conclusions, the most important of which are: Accounting for achievement depends on a set of financial and non-financial measures that indicate the ability of the economic unit to achieve achievement within a certain period of time and the amount of the cost it bears in order to achieve that achievement. Completion can help manage cost and streamline operational decisions.

Introduction:

The modern industrial environment has been characterized by the acceleration of the development of its technical and technical capabilities in order to meet the market requirements of high-quality and low-price products that match the demand for these products. Many approaches have emerged within management accounting with differing assumptions and trends in an attempt by its authors to find ways to achieve success that varies from one perspective to another, and one of the most important elements of success is based on sound decisions based on sound scientific foundations instead of relying on the experience and skill of those in charge of the decision-making process. Among these approaches is the approach to accounting for achievement, which tried to put forward a concept of cost that is different from the traditional one and to develop the standards related to it by renaming some of them and fundamentally changing the concept of others and introducing new variables into the process of measuring and managing costs, thus helping to rationalize administrative decisions.

The first topic: Research methodology

1-1- The Research Problem: -

The traditional cost accounting systems have become inconsistent with the requirements of the modern manufacturing environment, which requires following the modern approaches to developing methods of profitability, production and sales planning, so following these approaches will provide cost information to rationalize decisions in addition to it will provide modern and effective measures to evaluate performance, and the research problem can be embodied through The following question: Does accounting for achievement help in managing costs and rationalizing operational decisions?

1-2- The importance of research:

The importance of the research comes by shedding light on one of the modern methods in the contemporary industry environment, which is the approach to accounting for achievement that provides cost information that is compatible with this environment and helps in managing costs and rationalizing operational decisions in economic units.

1-3- Research objectives:

The research aims to address the theoretical framework for achievement accounting with an indication of the possibility of its application in economic units in order to manage costs and rationalize operational decisions in a manner consistent with the rapid and successive changes accompanying the modern manufacturing environment.

1.4 Research hypothesis:

The research is based on a basic hypothesis that: (Applying accounting for achievement in economic units can help them manage costs and rationalize operational decisions).

1.5- Research sample:

The research sample is represented by the General Company for Electrical Industries / one of the formations of the Iraqi Ministry of Industry and Minerals, for the data for the fiscal year ending on 31/12/2019.

The Second Topic: The Theoretical Framework of the Research

1-2 the Concept and Importance of Accountability for Achievement: -

Accounting for achievement has emerged to meet the administration's needs of appropriate and necessary information to support and apply the concepts of continuous development, as well as providing information related to the development of the operational performance of the economic unit by focusing on organizational bottlenecks and reducing the completion time and trying to link the amount of achievement achieved and the resources spent in order to provide cost information that is compatible with Restricted resource environment, as well as assistance in evaluating the performance of economic units in a manner that is in line with developments in the modern manufacturing environment (Sysma, 2016: 1-2).

The accounting for achievement is seen as a performance measurement method based on building production relationships, costs and the ability to generate achievement, and the cost of products is determined according to each product's use of scarce resources (Marton, et.al., 2010: 25), and it is also viewed as an approach. An accountant consistent with the philosophy of production on time. Basically it is assumed that the manager has a set of resources available to him (capital, buildings, equipment, etc.) that he uses to purchase raw materials and convert them into a complete product that can be sold through which revenue can be generated, and that the purpose of accounting for achievement is not control. They need to focus on costs, but find a way to maximize profitability by increasing the flow of production (Atrill&Lancy, 2009: 399).

With regard to the importance of accountability for achievement, it can be clarified through a set of points, as follows:

- 1. Accountability for achievement helps in understanding the general objectives of the economic unit, and this understanding is based on the fact that the economic resources available for this unit are limited, and accordingly, efforts must be made to direct the resources well in order to effectively and efficiently achieve the objectives set for the economic unit (Tollington, 2008: 46)).
- 2. Accounting for achievement positively affects the performance of the economic unit because of the comprehensive view of the whole system instead of the fragmented view of the components of the system, as it is treated as a continuum of resources and processes instead of dealing with each resource or process separately (Dettmer, 2009: 3-4).
- 3. Accounting for achievement helps in solving problems of production bottlenecks and scheduling problems, as well as reducing inventory costs by undertaking continuous improvement processes in the economic unit in the presence of determinants that can affect the flow of the production process depending on the time compatibility between inventory and the speed of the restricted resources during a specific period (Sysma, 2016: 1-2).

4. Accounting for achievement depends on the appropriate methods by which the required goals can be achieved efficiently and effectively, and benefits can be obtained directly after the completion of continuous improvement processes (Marton, et.al., 2010: 25).

2.2 Accounting for Achievement Standards:

According to the basic concept of accounting for achievement, and with the exception of non-profit units, the primary goal of any economic unit is to generate money at the present time and in the future, and the measures that we need must measure progress towards that goal. Measures of accounting for achievement can be clarified through the following:

First: Achievement (Throughput: - Achievement is seen as all the money entering the system minus the payment to the suppliers, and the margin of achievement results from the value that the system added to the direct materials by converting them into a complete product, so it may be expressed by the question "What is the amount of money entering the system? , To be the first criterion in judging the validity of internal decisions, and this is the most important measure in the entrance to accounting for achievement, as maximizing it is the first goal leading to profitability, assuming that the only thing to maximize achievement is to increase the units sold during a period of time regardless of the units that They were produced (Bragg, 2007: 44).

Achievement is considered an important measure of the profitability of the product and is equal to the selling price minus the costs of raw materials, which is similar to the concept of the return on contribution to the variable cost, so it is called the margin of achievement, and the essential difference between them is that the approach of accounting for achievement excludes direct wages from variable costs and only direct materials are considered the variable cost Which changes in their entirety with the change in the volume of production, either the remaining costs (direct wages and other costs) are considered as fixed costs incurred on the income of the period in which they occurred (Tollington, 2008: 45).

Second: Investment: The investment represents all the money that the economic unit invests in buying what it intends to sell, and that the investment can be classified into two groups, the first represents the stock of raw materials, and the second represents the stock of production in operation and full production, as the stock of raw materials has A significant impact on the competitiveness of the economic unit, and in general, there is a special focus on investing the economic unit in working capital, especially inventory, so the value of its investment in the stock cannot include the value added by the system itself, and therefore it does not include direct wages or indirect industrial costs. The other, rather, it includes the amount paid for its contents that were purchased from external suppliers and used in the manufacture of inventory, and the approach to accounting for achievement criticizes the traditional system of cost accounting, which it deems encouraging increased production and the formation or construction of additional stocks with the presence of stock already under the pretext of reducing the cost of one unit (Dettmer, 1997: 12).

Third: Operating Expenses: Operating expenses are defined as the money that the system spends to transfer inventory to an accomplishment during a specified period. It is all money that flows outside the system to keep it continuous, as the main purpose of this measure is to support the ability of the economic unit to generate Achievement, it is the price that you pay to get its energy

level, and it represents all expenses except for direct material costs and the expenses that are classified within this group usually are direct and indirect wages, depreciation, equipment, benefits and other industrial costs, as a general rule all the expenses that are realized as a result of the passage of time are expenses Operational (Tollington, 2008: 46).

It is evident from the foregoing that the relationship between the three measures can draw a framework for the approach to accounting for achievement, which views the economic unit as an integrated system that moves towards its goal by making decisions based on these measures. They are complementary elements among them. If achievement is maximized by increasing Sales, this means that the inventory and operating expenses will be affected by the shortage at this point until additional inventory is produced to support the increase in sales, which means the need for additional operating expenses, it is an iterative process to reach the goal and then move away from it and then try to reach it again by changing in These elements, as the basic concept of achievement accounting approach is the use of system-wide profitability analysis instead of margin analysis at the individual product level (Dettmer, 2009: 4).

2-3 Dimensions of accountability for achievement:

In light of the current research requirements, the dimensions of the achievement accounting entry can be studied from two dimensions, namely its method for determining costs and its method for providing information through the reports it prepares. These two dimensions can be clarified through the following:

First: Accounting for achievement as a cost method: Horngren referred to the term (throughput costing) instead of accounting for achievement (throughput accounting) and included it within one of the methods of determining costs with both the total cost method and the variable cost method. Super-variable costing (Super-Variable Costing) because it represents an exaggerated method of determining the variable cost of inventory as the direct raw materials are only really variable, and all other costs, especially direct labor and other industrial costs, are charged to the period in which they occurred as a period costs are deducted from income. According to this concept, there is a great similarity between determining variable costs and determining costs on the basis of achievement. Part of the variable cost philosophy is that fixed costs are not related to the unit cost in the way they are related to the total cost method. Thus, the finished production stock and the production stock in operation will move from a period An accounting to another is evaluated only with its variable cost ... and the proponents of variable cost see it as a very rational approach to measuring profitability when all fixed costs are charged to income as expenses in the period in which they occur, and most importantly, they see only variable costs as appropriate for decision makers and that fixed costs make the matter Ambiguous (Atrill&Lancy, 2009: 123-125).

Second: Accountability for achievement as a method for internal reports: The basic rule in internal reports directed to the use of the administration is that its information has the characteristic of suitability to serve as a basis for rational decision-making. In his book, one of the first to write about achievement accounting, Corbett posed a question in which he focused on the obsolescence of traditional cost accounting methods in providing appropriate information: "Do we need to allocate costs to products?" In other words, do we need product costs to make decisions? Diverse decisions without allocating any costs to products, but in fact we can make

any decision without using costs

. Accounting for achievement provides quality information in a simpler way (Corbett, 1998: 80).

2.4 The Importance of accounting for Achievement in Cost Management and Rationalizing Operational Decisions: a

Economic changes have forced many companies to reconsider the role played by cost accounting in order to develop them in line with the new industrial environment, given that the traditional cost systems were designed primarily in an industrial environment where manual labor was an expensive matter, so it represented the bulk of the costs Production was used as a basis for charging other industrial costs due to its connection with the product unit (Westra, 2006: 4). The role of accounting for achievement in cost management can be explained through the following: (Aghili, 2011: 22)

- 1. Cost restructuring: According to this entry, all costs borne by the economic unit are considered relatively fixed, except for the costs of direct materials involved in the manufacture of the product.
- 2. The merging of financial and non-financial measures: The approach to accountability for achievement encourages cooperation and coordination within the economic unit to achieve the goal of profitability for the unit as a whole instead of rewarding workers for taking care of their operations individually.
- 3. Inventory management: Usually, the administration focuses on idle time and insists on keeping productive work going. As soon as one group of raw materials comes out of a process, another group enters into it to work on it as well.

As for the role of accountability for achievement in rationalizing operational decisions, its contribution to providing more quality internal reports can be summarized by restructuring these reports to suit the needs of the administration on its path towards maximizing profitability by maximizing achievement or reducing inventory and operating expenses (Balderston&Mabin, 2003): 5), the reports contain these three elements in a non-overlapping manner that can be easily controlled as follows: - (Doran, 2016: 3)

- 1. The possibility of analyzing the margin of achievement generated by the main variables, which are the quantity sold, the price, and the cost of the raw materials. Therefore, the input assumed that the only way to maximize achievement is the quantity of sales since the price and the cost of raw materials are two external variables that cannot be changed.
- 2. Focusing on operating expenses separately from the rest of the elements in an attempt to reduce or limit their increase.
- 3. Stimulating to reduce stock levels, not the lowest level, as they represent unsold products that did not contribute to generating profitability, so they are charged for the period.

The third topic: the practical side of the research

3.1 An introduction about the State Company for Electrical Industries: -1

The General Company for Electrical Industries, one of the formations of the Iraqi Ministry of Industry and Minerals, was established in 1967, and the company specializes in the production of electrical devices. The company started its production with three production lines, but it has expanded in recent years to add new production lines that can meet the needs of the Iraqi market of various electrical devices. The products produced by this company compete with foreign products in terms of quality, but its products are not exported outside the country for reasons related to export laws in addition to the high costs of these products, and among the factors that push the company to develop its products is that the company has qualified administrative, accounting and technical staff who follow developments Technology in the field of electrical industries, as well as the company conducting periodic market research in order to identify the needs of customers and the changes that have occurred to them, so the company's management plans with the help of both the R&D and Planning Department to develop existing products and produce new products that can meet the competitive market requirements.

2-3 Applying accounting for achievement in the General Company for Electrical Industries and stating its role in cost management and rationalizing operational decisions:

The current research will be applied in one of the laboratories of the State Company for Electrical Industries, which is the factory for air cooled engines, and this laboratory produces two types of products, which are 1/4 hp air cooled engine product and 1/2 hp air cooled engine product. The accounting for achievement approach will be applied in this laboratory by relying on the documents and records of the company, as well as benefiting from the interviews that were conducted by officials in the laboratory, where the cost of direct materials used in the manufacture of the plant's producers was identified, in addition to identifying the operational expenses (all costs). With the exception of the cost of direct materials), and according to the entry of accounting for completion, the cost of direct materials is a variable cost, either the rest of the costs are a non-variable cost, and after that the margin of total completion of each product can be calculated during the research year, and the cost of direct materials can be clarified for the plant producers during the year 2019. Through the following table:

Table (1)

Direct material cost for 1/4 HP Air Cooled Engine and 1/2 HP Air Cooled Engine Manufacturers

1/2 HP Air Cooled Engine	Air cooled engine 1/4 HP	the details	rS
2700	2300	Stator sheets	1
2400	1800	Router sheets	2
1500	1200	the hub	3
1800	1700	The iron bosha	4
3000	2500	Front cover	5
2800	2700	Back cover	6
1400	1200	Dust Protective Cover	7

1250	1000	Bearings cover	8
2000	1700	Felt	9
1300	1250	Board Swage	10
1400	1300	Connectors	11
1100	1000	Regimen	12
2250	2000	Condenser stabilizer	13
2750	2600	Connectors	14
27650	24250	Total	

Source: Prepared by the researcher.

It is evident from the above table that the direct material cost for the 1/4 HP air-cooled engine product amounted to 24250 dinars, and for the 1/2 horse-cooled engine product amounted to 27,650 dinars, and after reviewing the cost records in the research sample company, it became clear that the actual total cost For the producers of the 1/4 HP air-cooled engine and the 1/2 HP air-cooled engine, it reached 38,000 and 45,000 dinars respectively, and after determining the cost of direct materials, the operating expenses will be determined, which can be classified into the following groups:

- 1. The employees' wages fall within the salaries and wages clause, which includes the salaries, wages, allowances and remunerations of the company's employees.
- 2. Other industrial expenses are represented in multiple items such as reserve tools, oils, lubricants, gas, oil, water, electricity and maintenance expenses, and it is differentiated between the two items of commodity and service requirements.
- 3. Administrative costs such as consulting services, legal services, supplies and other tasks, and they fall under the two items of service and commodity requirements.
- 4. Marketing costs include items such as advertising and fees for transporting goods and commodities, and most of them fall under the item service requirements.

According to the accounting entry for achievement, the operating expenses are equal to all the expenses that the company incurs during the time period except for the direct materials, and it can be calculated for the plant producers of the research sample through the following table:

Table (2)

Operating expenses for producers of 1/4 HP Air Cooled Engine and 1/2 HP Air Cooled Engine

1/2	HP	Air	Cooled	Air cooled engine 1/4 HP	the details
Engir	1e				
45000)			38000	Actual total cost
(2765	(0)			(24250)	- Direct material cost
17350)			13750	= Operating expenses

Source: Numbers of research.

It is said that the price of a job is 13450 dinars. Hesan and trigger ventilation 1/2 Hesan has been 36.18%, 38.56% on the balance, the order of which the share of direct material is liable to those producers.

After determining the cost of direct and working expenses, the system of accounting is not allowed.

Table (3)

The only way to get rid of the air is to move 1/4 of the air and move the air 1/2 of the air.

Motivation of	air	1/4	part	of	the	air	Details
circulation 1/2 par	t	stim	ulus				
65000		5000	00				Sales revenue
(27650)		(242	50)				- Direct material cost
37350		257	50				= Margin of achievement

Source: Prepared by the researcher.

It is noticed from the above table that the product of the air cooled engine of 1/2 horse achieved a margin of achievement higher than the first product, as the margin of achievement of the engine reached 37,350 dinars, either the product of the air-cooled engine of 1/4 hp achieved a margin of achievement of 25750 dinars during the research year, The reason for this discrepancy is the increase in the selling price of the second product over the first.

The completion rate for each product of the plant's producers during the year of research can be calculated using the following equation:

Completion rate = completion margin \div total completion time

The margin of achievement was calculated in the previous table, either the total completion time for each product will be calculated through the following table:

Table (4)

Total delivery time for manufacturers of 1/4 HP Air Cooled Engine and 1/2 HP Air Cooled Engine

1/2 HP	Air	Cooled	Air	cooled	engine	1/4	the details	rS
Engine			HP					
8			6				Roller cutting	1
5			5				Insert the plates into a fermentation oven	2
5			5				Glue sheets assembly	3
4			3				Insulation of the sticker packet	4
8			5				Winding primary and secondary windings	5
5			3				Expand and modify files	6

5	3		7
		the wires	
6	4	Pressing the tremor	8
		with wires	
3	2	Inserting the sleeves	9
		and welding Alwairat	
5	4	Tailor and tie wires	10
4	3	Initial examination	11
5	4	Frame the sticker	12
8	5	Dowsing	13
5	4	Final examination	14
76	56		

Source: Prepared by the researcher.

After calculating the completion margin and the total completion time for each product of the plant's producers, the completion rate will be calculated as shown in the following table:

Table (5)
Achievement rate for 1/4 HP Air Cooled Engine and 1/2 HP Air Cooled Engine

1/2 H Engine	P Air	Cooled	Air cooled engine 1/4 HP	the details
37350			25750	Margin of achievement
76			56	÷ Total Completion Time
491.4			459.8	= Completion rate

Source: Prepared by the researcher.

It can be seen from the above table, the variation in the achievement rate between the plant producers during the research year, as the completion rate for the air-cooled engine product was 1/4 hp 459.8 dinars / minute, and for the air-cooled engine product 1/2 hp it reached 491.4 dinars / minute. The net profit can be calculated according to the achievement accounting entry for the producers of the 1/4 HP air-cooled engine and the 1/2 HP air-cooled engine, as shown in the following table:

Table (6)

Calculating the net profit according to the completion accounting entry for the producers of 1/4 HP Air Cooled Engine and 1/2 HP Air Cooled Engine

Source: Prepared by the researcher.

It is clear from the above table, that the product of the air-cooled engine of 1/4 hp achieved a net profit of 18,000,000 dinars, either the product of the air cooled engine of 1/2 hp achieved a net profit of 50,000,000 dinars, so the total profit the company made from the producers was By 68,000,000 dinars during the fiscal year ending on December 31, 2019, the company is currently thinking about excluding the production line for the air-cooled engine of 1/4 hp, and converting its entire production capacity to a product of an air-cooled engine 1/2 hp with the possibility of

reducing the selling price by 2,000 dinars per unit One, that is, the new selling price for the product of the air-cooled engine of 1/2 horse will be at 63,000 dinars. The net profit can be calculated after excluding the production line of the air-cooled engine of 1/4 hp, and as shown in the following table:

Table (7)
Calculation of net profit after excluding the production line of 1/4 HP Air Cooled Engine

1/2 HP Air Cooled Engine	the details
4000	Number of units sold
63000	X The selling price of one unit
525000000	= Sales revenue
(110600000)	- Direct material cost (4000 x 27650)
141400000	= Margin of achievement
(69400000)	Operating expenses (4000 x 17350)
72000000 دينار	= Net profit

Source: Prepared by the researcher.

The above table shows that the net profit after excluding the production line of the air-cooled engine of 1/4 hp became 72 million dinars after it was 68,000,000 dinars before excluding this production line, and it is possible to compare the net profit before and after excluding the production line of the air-cooled engine of 1/4 hp, And as shown in the following table:

Table (8)

Comparison of net profit before and after excluding the product line for 1/4 HP air cooled engine

The difference	•	Net profit before excluding the product line of 1/4 HP Air
	cooled engine	Cooled Engine
4000000	72000000	68000000

Source: Prepared by the researcher.

It is evident from the above table that the net profit of the company will increase by 4,000,000 dinars if the production line for an air-cooled engine is excluded 1/4 hp, and the accounting entry for achievement provides the possibility to analyze the achievement margin generated from the main variables which are the quantity sold, price and cost of materials The priority, as well as focusing on operating expenses separately from the rest of the elements in order to try to reduce or limit their increase, in addition to stimulating the reduction of stock levels, not the minimum level, as they represent unsold products that did not contribute to generating profitability, so they are charged over the period, and thus accounting for achievement may Assisted in providing the necessary information through which the research sample can rationalize operational decisions in the company.

The Fourth Topic: Conclusions and Recommendations

4.1 Conclusions:

- 1. There is a deficiency in traditional cost accounting systems, which made it slow in keeping pace with the acceleration of technological progress and does not meet the requirements that were its first goals in the past.
- 2. Accounting for achievement depends on a set of financial and non-financial measures that demonstrate the ability of the economic unit to achieve achievement during a specific period of time.
- 3. The cost elements involved in calculating the cost of the product according to the accounting for achievement differ from its counterpart in the traditional cost accounting due to the different relationships and interconnections leading to the final number of the cost, which makes it more suitable for the complexities of technological development.
- 4. Accounting for achievement with the methodology of managing constraints represents an integrated structure, the first concerned with financial and informational aspects, and the second focus on addressing constraints to maximize achievement and increase profitability.
- 5. Achievement accounting measures provide new indicators, such as the percentage of completion for each product, which are aimed at providing appropriate information to rationalize many decisions.

4.2 Recommendations:

- 1. The necessity to improve the internal system of economic units and to identify the obstacles that stand in their way to achieving success through scientific methods.
- 2. There is a need to change the traditional perspective of the cost structure, which no longer fulfills the purpose for which it was originally laid, as the relationships and links between cost and production have become complicated due to the change in the production tools themselves.
- 3. Paying attention to managing the company's stock of all kinds and setting a policy to maintain a certain amount to meet the needs of operations, especially the bottleneck centers, to achieve a greater balance in energies.
- 4. Working on merging financial and non-financial measures when it comes to operational decision, because this merger is the most influential in its results.
- 5. Take advantage of the simplified method of presenting the information presented by the accounting for achievement to obtain better results in the company.

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