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Four Stages Time Driven Activity Based Costing (4TD-ABC): An Empirical Study

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Abstract

The 4 steps time driven activity-based costing is one of the most important modern strategic techniques in the field of cost accounting and administration. It helps economic units to achieve the goals of cost management by reducing them, taking appropriate decisions, and enhancing competitiveness by achieving customer satisfaction, current and future desires and high production quality. Thus, the current research aims to prepare a sound methodology concerned with determining the cost of the product by applying the (4TD-ABC) technique in business organizations, which helps them in providing information that will be reflected in the management of costs related to their products. To achieve this goal, the researcher relied upon the application of (4TD-ABC) technique on data obtained by field researcher as well as laboratory records. The results show that the men's clothing factory in Najaf suffers from a lack of features to implement (4TD-ABC) technique, despite all the challenges this laboratory faces, most notably the increase in the intensity of competition. As a result, the application of this technique will help achieve several goals, the most prominent of which is cost management, whether by reducing it or making appropriate decisions or the ability to compete. In addition, the implementation of the (4TD-ABC) technique provides comprehensive and integrated information about resources and their allocation that contribute to increasing the effectiveness of the application of this technique. Therefore, the results confirm that adequate attention is paid to the application of the aforementioned technique for its role in achieving these goals.

Keywords*: 4TD - ABC, PFABC, TD-ABC, ABC, Cost Management.*

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1. Introduction

The modern business environment is witnessing rapid developments represented by technological progress, intense competition, and globalization of markets. In addition to the resulting fluctuations in the tastes of customers and their need for products that meet their requirements and that are low prices and high quality (Almusawi, Almagtome, & Shaker, 2019). As a result, the goal of cost management, which economic units strive to achieve, is achieved. In view of all these developments, it was difficult for the economic units to continue to apply traditional systems and approaches to cost and administrative accounting if they wanted to achieve the goal of success in light of them, as these systems and entry do not provide appropriate information that is considered as requirements to achieve this goal because its focus is more on the environment The interior of these units, so it was natural for research to be conducted on modern strategic techniques in the field of cost accounting and administration that respond to the developments above and one of these techniques that would meet the requirements imposed by the modern business environment is the cost technique on the basis of time-oriented activity four stages that have been proven Its superiority in achieving the goals of cost management represented in reducing it, taking appropriate decisions, and the ability to compete through achieving the requirements and desires of customers. The (4TD-ABC) technique is based on managing the cost of its resources in four phases, which are the stage of departments, functions, activities, and access to the product with the aim of reducing costs and achieving control over them through good allocation to them by linking them to the optimum time taken by the activities that contribute to the production of each job from Jobs related to different departments. Therefore, the problem posed by this research revolves around a fundamental point, which is that our economic units suffer from the lack of features to apply modern accounting techniques in the field of cost management, perhaps the most important of which is the cost technique based on the four stages time driven activity based costing, because of its importance in cost management (Khaghaany, Kbelah, & Almagtome, 2019).

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Depending on the research problem, the researcher tries to verify the following two hypotheses: The cost technique can be applied on the basis of the four-stage time-directed activity (4TD-ABC) in industrial companies, the application of the cost technique on the basis of the four stages time driven activity based costing (4 TD-ABC) in the business environment Iraqi would provide a sound course of action to determine and manage the cost of the product..

2. Literature review

2.1. Cost Management: Concept, Goals, and Techniques

C. T. Horngren, Datar, and Foster (2003) show that cost management is now commonly used in the business environment. There is no clear definition of this concept, but cost management can be defined as a collection of methods and activities applied by managers to planning and supervisory decisions in the near and long concept, which increase the value of the consumer and reduce the cost of goods and services. Meanwhile, Colin Drury (2008) suggests that cost control is the sector and sector of controlling the economic unit in order to minimize costs, improve customer loyalty and gain competitive advantages. Huang and Zhang (2013) believe that cost management is the use of cost data to manage projects with their activities and processes in order to achieve competitive advantage. According to Hilton and Platt (2005) the cost reduction goals are as follows:

1. Measuring the expense of the money expended as a result of carrying out the activities required for the economic unit.
2. Recognize and delete behaviors that do not add value.
3. Determination of the efficiency and effectiveness of the main activities that could improve the future performance of the economic unit.

Schuster (2006) shows that the main objective of cost control was mostly to minimize costs over a span that lasted until the end of the twentieth century due to the improvements shown in Figure 1. Economic units were anxious about their inability to determine the fate of their future.

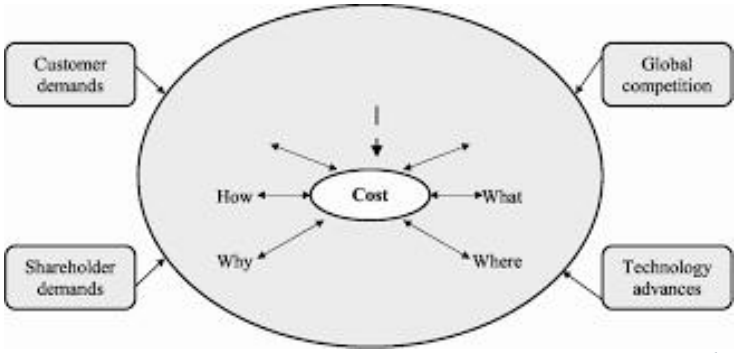

Figure 1. Objectives of cost management against the change powers in 20th century

Source: (McNair, 2000)

As for the twenty-first century, the conventional principle of cost control has not been limited to the objective of cost reduction alone, but has been expanded to include increased sales, enhanced efficiency and value for the consumer. At the same time, the competitive role of economic unity has been strengthened, as shown in Figure (2).

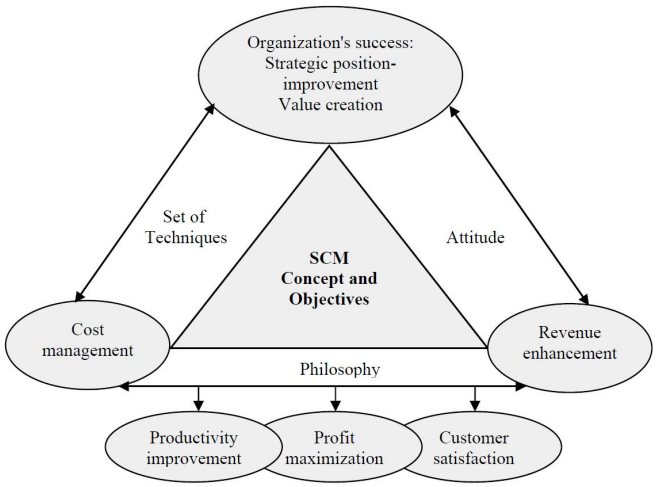

Figure 2. Objectives of cost management against the change powers in 21st century

Source: (Schuster, 2006)

As with conventional cost control methods, there is a range of techniques in the accounting literature that seeks to handle costs from a modern perspective. It is necessary to remember that the implementation of a specific technology depends on the essence of the goal to be accomplished by the economic unit (Al-Wattar, Almagtome, & AL-Shafeay, 2019). These are some of the strategies that will be discussed briefly and are the most common. The cost strategy is discussed in depth on the basis of four-stage time-driven activity-based costing (4TD-ABC). In addition to the other technologies that preceded this technique, in terms of development in the field of cost identification and allocation for the second subject, in preparation for the implementation of the technique (4TD-ABC) in cost management for the men's clothing factory in Najaf.

2.1.1. Target Costing

Garrison, Noreen, Brewer, Agliati, and Cinquini (2008) indicate that the targeted cost is a mechanism to increase the productivity of the economic unit and that costs. C. T. Horngren, Datar, and Rajan (2012) indicate that the goal cost is part of a robust strategic cost control strategy at unit or product level. As regards the steps involved in the implementation of the target costing, C. Horngren, Datar, and Rajan (2018) and Muia (2012) state that it includes setting the target price, setting the target profit, setting the target cost and calculating the current cost. In this regard Contrafatto and Burns (2013) indicate that the use of modern technologies, such as Activity based costing technique, will make a very appropriate contribution to the determination of current costs. The application of the (4TD-ABC) technique in the calculation of current costs (which will be covered later) will be more appropriate to determine the target cost reduction and to achieve the target reduction. Contrafatto and Burns (2013) confirm that the process of achieving the target cost reduction requires the use of several different tools or methods, the most important of which is value engineering, benchmarking and disjointed analysis.

2.1.2. Kaizen Costing

According to Feil, Yook, and Kim (2004) the cost of continuous improvement is closely linked to the target costing. As the target costing is designed to help achieve the target cost of the product identified through the market during the production planning process, the cost of continuous improvement focuses on the process of continuous cost reduction during the production phase. Japanese companies widely use the cost of continuous improvement as a mechanism to reduce and manage costs, noting that Kaizen is a Japanese term meaning continuous improvement of operations. The difference between target costing and continuous improvement is that the application of the target costing is usually at the design stage of the product, while continuous improvement is applied during the manufacturing phase (C Drury, 2018).

2.1.3. Balanced Scorecard (BSC)

According to Išoraitė and Miniotienė (2018) a balanced scorecard is one of the technologies that enables economic entities to translate their vision and strategy into an action plan. Blocher (2009) show that the Balanced Scorecard (BSC) is a map of an economic unit strategy that helps to provide information reflecting its strategic performance. The performance measurement process under the Balanced Scorecard is carried out by means of various measures which involve four perspectives which form the basis for the application of this method:

A. Financial Performance Perspective: It is represented by measures of profitability and market value that reflect the extent of achieving economic unity to the satisfaction of stakeholders and shareholders.
B. Customer satisfaction perspective: It is represented by the measures of quality, service and low cost, and it reflects the extent of achieving the economic unit for the satisfaction of its customers.
C. The perspective of internal operations: represented by measures of efficiency and effectiveness with which the economic unit produces its products or provides its services.
D. A learning and growth perspective: It reflects the measures of the economic unit towards developing and using various resources to achieve its strategic goals.

2.1.4. Theory of Constraints (TOC)

According to Akman and Özcan (2016) the theory of constrains is one of the techniques that aims to maximize profitability by identifying and addressing bottlenecks or limited resources. Senichev, Strelnikov, Tereshatov, and Makarova (2018) show that limitation theory helps in identifying and trying to get rid of difficult situations, i.e. the situation in which products or services reach the stage of partial production and are waiting for the customer's need to be satisfied. In addition, bottlenecks may appear in various stages of the product life cycle, such as production, packaging, processing, etc. The theory of constraints works according to steps that begin by identifying bottlenecks or restricted resources, whether internal or external, and trying to find appropriate solutions to address them.

2.1.5. Resources Consumption Accounting

Webber and Clinton (2004) define the resource consumption accounting as one of the strategic cost management techniques that combines the benefits of the German resource-focused cost management system and the American cost-management system that focuses on activities and in a manner that supports decision-making processes. Jinkens and Yallapragada (2010) show that resource consumption accounting is a modern cost and management accounting technology that provides more relevant and detailed information on product-related activities and in a form that helps in decision-making. Two measures are required to apply this technology, namely resource energy and costs (Kbelah, Almusawi, & Almagtome, 2019). According to Okutmus (2015) the steps for applying the method are as follows:

A. Define the different resource pools.
B. Determining the cost related to resource pools.
C. Determining the direction of the cost of resources.
D. Determining the share of the productive departments in the costs of resource pools on the basis of theoretical energy.
E. Determining the share of productive departments in the costs of resource pools on the basis of actual energy.
F. Calculating idle energy costs

2.1.6. Activity Based Management (ABM)

According to C Drury (2018) ABM focuses on managing the economic unit of its business based on the activities that make up this unit. It is based on the premise that activities consume costs. Therefore, by managing activities, activities that do not add value will be excluded because their cost will be a burden on the economic unit. This is what constitutes the goal of the ABM application. It also enables to know the activities with the highest cost so that they can be arranged according to priority if it is possible to eliminate activities that do not add value from them. C. Horngren et al. (2018) show that ABM is a method for making administrative decisions by using various information to manage costs and related activities.

2.2. Four Stages Time Driven Activity Based Costing (4TDA-BC)

The criticisms that accompanied the application of traditional cost accounting systems more than focused on the issue of allocating indirect costs to products or services that are considered one of the biggest problems facing economic units. The reason for this is that the allocation process serves these units in many aspects, including determining the cost of a single unit, assistance in managing costs, assistance in making decisions, or others. Therefore, the problem was in the search for a system or technology that addresses the process of allocating indirect costs in a logical manner and that their results are appropriate (Almagtome, Shaker, Al-Fatlawi, & Bekheet, 2019). Accordingly, a number of techniques and systems have emerged according to different times, which have been moving towards achieving success in allocating indirect costs. It has been possible for research and accounting studies to address it in one way or another in order to find a better alternative from them that meets the needs of the economic unit by providing useful and accurate data and information and sufficient knowledge to benefit it in making various decisions.

The accounting tradition has been addressed to address the technologies that are concerned with allocating indirect costs according to the generations that these technologies have gone through, which are three generations, while noting that each of these methods faced several criticisms and all of them related to its role in charging the producing unit with its share of costs other than direct. Therefore, as a result of these criticisms, the cost method has developed on the basis of the four-stage time-driven activity-based costing (4TD-ABC) to represent the fourth generation of evolution (which is proposed by the current research). It is based on the use of time as a basis cost guide in allocating the cost of resources to the various cost goals, whether at the level of departments, jobs or activities, up to "the final product.".

1. First Generation - Activity Based Costing (ABC)

The modern business environment has witnessed several changes since the eighties of the last century, the most important of which is the increase in intense competition between economic units and the multiplicity of products that it produces to meet customer requirements. As well as "about the emergence of the World Trade Organization, technological progress, globalization, etc., and the consequent price declines in order to survive in this environment. On the other hand, deficiencies in traditional systems such as orders and stages began to appear in terms of providing misleading and inaccurate information about the cost, especially indirect ones. So, this was a motivation "behind the emergence of several modern ideas in the 1980s. It aims to update or revise the systems and technologies applied to suit the needs and aspirations of the administration. The distortions arising from the distribution of indirect costs by relying on one basis or one rate of distribution under traditional systems, which have become far from reality were one of the reasons for searching for more accurate or appropriate systems and technologies, perhaps the most important of which is the costs based on activity (ABK) (C. T. Horngren, Bhimani, Datar, Foster, & Horngren, 2002). Hilton (2011) defines the cost based on the activity as a technique whereby indirect cost elements are distributed in two phases, the first of which is to collect these elements in certain cost complexes and that in the second stage they are allocated to the final products or services based on the cost guides that are appropriate The nature of each component of indirect costs.

2. The Second Generation - Time-Driven Activity Based Costing (TD-ABC).

Kempson, Atkinson, and Pilley (2004) show that the main reason for the emergence of cost technology on the basis of time-oriented activity is due to the reluctance of many economic units from the application of cost-based activity (ABC) due to the problems arising from its application. Despite what the first generation of a paradigm shift has made in accounting thought in calculating the cost of production in economic units and has proven successful over several years in its application by economic units, the ABC certification rate has been somewhat low. The exorbitant design, implementation and operation of this technology was one of the most important factors contributing to the interpretation of the low application rate of the technology. The conclusion of Kaplan (2006) on the reasons why many economic units abandoned the application of costs on the basis of activity was more related to the long time that technology takes to implement and the high cost. This is what led to the emergence of a new technology, namely cost-on-time-oriented activity (TD-ABC) (C Drury, 2018). Kont (2014) defines cost on the basis of time-oriented activity as a fast and easy technique when applied. Its implementation requires two parameters, which are the unit cost of time for a different resource group calculated based on working capacity, and the time of performance activities for the activities of each resource group.

3. Third Generation - Performance Based Activity Based Costing (PFABC)

The performance-based activity-based costing is the third generation of ABC technique. It is a hybrid technique that tries to overcome part of the weaknesses of ABC and TD-ABC. It is similar to (ABC) because it requires identifying the main activities, but it differs from (TD-ABC) in the methods of determining the necessary resources. The actual resources of each activity can be evaluated in a variety of ways, which may be by interviews or surveys, or based on the actual use of time, materials or other resources (Namazi, 2009). Another important difference between (PFABC) and the rest of the other methods is what is related to costing in that PFABC calculates the standard rate of cost (quantity) engines taking into account price changes, so it will help managers to assess the true cost factors by separating and analyzing deviations. Size and price. Carroll and Lord (2016) add in this regard that additional operations in (PFABC) make it more difficult to design or implement, but it provides a "more detailed examination of the activities of the economic unit. Namazi (2009) and (Chea, 2011) show that the method of (PFABC) achieves three advantages which are performance monitoring, solving some of the costs allocation problems that you suffer from (TDABC), in addition to creating compatibility with (ABC and (TD-ABC).

4. Fourth Generation – Four Stages Time Driven Activity based Costing 4TD-ABC

The criticisms that accompanied the application of caliphate techniques that are related to the calculation of the cost of the product, the latest of which are the above-mentioned (PFABC) It has led to the need for economic units to adopt cost technology on the basis of four stages time driven activity based costing. It is based on different cost costs based on the different cost goals represented by the product divisions that contribute to making it ready for sale down "for the jobs that these divisions perform. Then, the activities that perform the functions above through" to the final cost goal of the product and this logical sequence of the resource flow process, including It includes energies and costs that may make the style appear as it is. Penman, Zhu, and Wang (2019) indicate that the starting point of the cost program on the basis of four-stage activity that dates back to the nineties of the last century following the criticism

directed at the technology that promised the first generation of generations that meant calculating the cost of the product, which is the cost based on activity (ABC). Its goal is to overcome its shortcomings, while noting that it is limited to some American economic units. It did not take much space due to the spread of the second-generation application which is cost-based on time-oriented activity (TD-ABC) and significantly. The goal of applying the cost on the basis of the four-stage activity was to define all the products across the departments through which they pass through the functions these departments perform through the activities included in the departments. The application of this technology has achieved success in the economic units that have adopted in terms of allocating their resources involved in production, reducing the cost of the product, and identifying wasteful and minimal aspects of it.

Cokins (2015) defines cost on the basis of multi-stage activity as one of the techniques that is concerned with calculating the cost of the product across the departments it passes through in terms of performing various functions related to the activities of those departments. Neunert and Cooper (2018) define (4ABC) as a technique that focuses on the process in which the cost driver is linked to resources, divisions, job performance, and activities to reach "the product that meets the specifications it includes to the needs and requirements of customers. Grytz and Krohn-Grimberghe (2018) show that you should try to link time accounting that may be very important "in an environment that is experiencing rapid developments and increased competition and work in light of the requirements and needs of the customer with the diagnosis of exploited time and excluding the untapped from it, and this is because it represents an addition or increase in As a result, the concept of cost technology has emerged on the basis of a four stages time driven activity based costing that can be defined as one of the cost management techniques that are concerned with the use of time "for the final product and in a manner that contributes to obtaining more detailed and analytical information" that contributes to cost management by reducing it, making decisions, achieving Control it, and achieve competitive advantage.

3. Results

In this section, the procedures for applying 4TD-ABC technology will be applied to the men's suit product for the men's clothing factory in Najaf according to the steps included in this method:

1- Defining the different resource groups (divisions)

In this step, the groups of resources related to the production of the men's suit are identified in the men's clothing factory in Najaf, which is represented by the departments that implement these operations and which the researcher previously discussed in the first topic of this chapter.

2- Determine the total costs for each resource group (departments)

At this stage, the total costs are determined for each of the different resource groups (departments) for the laboratory, which are the job costs performed within the scope of each section of the laboratory by applying the following steps:

A. Defining the different resource groups (functions) related to a particular department

The resource groups in this step represent the jobs that are performed by all people who contribute to the performance of each of them and that fall within the scope of any section of the laboratory as shown in Table (1). The lab division jobs are determined based on the field experience of the researcher and the interviews he conducted with the engineers and technicians working in the lab sections.

Table 1. Functions of Najaf factory

#	Department	Functions
1	Production	Sew the jacket chest and tie the bottle
		Prepare the soup
		Prepare the liner
		Prepare the back and collar of the jacket
		Collect the jacket and tie the collar with the body
		The hook and buttocks are finished
		Cleaning and resting, and making the final preparations
		Tailoring your underpants
		Sew back pants
		Tie the sides of the pants
		Tie bows shorts
		Seat stitching
		Reinforcement, cleaning and delivery delivery
2	Technical Affairs	Planning
		the design
		Technology and programming
		Preparations
		Quality Assurance

3	Qualitative control	Directing workers to ensure production quality
4	Transfer	Transfer requirements for production and full production
5	The stores	Storing raw materials
		Store complete output
6	Maintenance	mechanical maintenance
		Electrical maintenance
7	Management	Administrative Affairs
		Legal Affairs

B. B- Determining the total costs for each resource group (functions)

It represents the total costs for each set of resources (jobs) related to the laboratory departments that contribute to the production of men's suits. These costs include the elements of direct and indirect costs that correspond to the performance of activities practiced by all persons who contribute to the production of men's suits within the scope of any job, as shown in Table (2). The direct costs represent the salaries of the people working there. Whereas, the indirect costs include all elements of industrial costs except for direct materials and direct work, which are reflected in the reality of the caliphate system applied in the laboratory.

C. Determining the practical capacity of each resource group (available hours)

In this step, the practical energy that is reflected in the working hours required by each of the resource groups represented by the different functions within the laboratory sections is calculated, noting that scientific research related to this aspect has adopted 80% of theoretical energy as practical energy. Therefore, the above ratio was adopted, with the indication that the laboratory did not reach this percentage. Hence, this ratio is one of the aspects of the necessary transformation procedures from what is actually "to what the laboratory should be. In addition," the interviews conducted by the researcher with the specialists in producing the men's suit from engineers and workers confirm the possibility of reaching this level of energy if What has been applied cost management techniques, including what this research suggests.

D. Determining the unit cost of time for each resource group (functions)

In this step, the unit cost of time is determined for each laboratory division function related to the production of the men's suit. This is done by dividing the total direct or indirect costs that correspond to the performance of the activities performed by the people who contribute to the production of the men's suit by the practical energy represented by the working hours required by each job in any department of the lab. My agency:

1- Determining the unit cost of time for jobs related to men's suit production

Table (2) shows the results of calculating the unit cost of time, which is one minute, for jobs related to the production of men's suits.

Table 2. Unit cost of time in production functions

functions	The annual direct cost of the job official	One-minute cost	The annual direct cost to the worker	One-minute cost	Annual indirect cost	One-minute cost
Sew the jacket chest and tie the bottle	17472000	196.9697	7872000	88.744589	290399051.8	90.9388565
Prepare the soup	19428000	219.0206	9976800	112.47294	86495931.96	97.51074581
Prepare the liner	22633440	255.1569	7529400	84.882305	86375265.58	69.55336655
Prepare the back and collar of the jacket	18698784	210.7998	9122868	102.84619	116201521.3	130.9991898
Collect the jacket and tie the collar with the body	21806544	245.835	10886688	122.73052	177370599.3	90.88992571
The hook and buttocks are finished	14792040	166.7573	8473428	95.524756	185303051.7	69.63348204
Cleaning, jacket, and final sewing	10010052	112.8478	7943304	89.548431	201851051.7	91.02229966
Tailoring your underpants	11073300	124.8343	8537784	96.250271	134926599.3	89.47577094
Sew back pants	8485848	95.66477	8337228	93.989313	215677859.7	83.8425277
Tie the sides of the pants	12330120	139.003	9674340	109.06318	96277859.74	83.49103998

Tie bows shorts	10033464	113.1117	8232000	92.80303	33855897.2	38.16727228
Seat stitching	11225460	126.5496	8779920	98.979978	99373074.23	50.92169372
Reinforcement, cleaning, delivery	14834400	167.2348	8454960	95.316558	68641074.23	38.6910817

Table (2) shows that the cost per minute is calculated by dividing the annual direct costs (for the job official or worker who performs one of its activities) or indirectly by the working energy that is calculated in turn according to the following:

As for the direct costs of the job official or worker within its scope:

Practical Energy = 7) Working hours per day in the factory x 22 working days per month excluding holidays x 60 minutes / hour) x 12 months per year "x 80% = 88704 minutes

As for the indirect costs, the working energy is calculated as follows:

Practical Energy = 7) working hours per day x 22 days per month x number of job employees x 60 minutes / hour) x 12 months per year "x 80%

The following is an explanation of the process of calculating the cost per minute shown in Table (2) for the function of sewing the jacket chest and tying the bottle:

Cost per minute for the job official = annual direct cost for the job official ÷ annual work capacity
= 17472000 dinars ÷ 88704 minutes = 196.9697 dinars / minute

- cost per minute for worker = annual direct cost per worker working capacity
  = 7872000 dinars 70 88704 minutes = 88.744589 d / min
- indirect cost per minute = annual indirect cost practical capacity
  = 290399051.8 dinars ÷ 3193344 minutes = 90.9388565 d / min

2- Determine the unit cost of time related to service and administrative cost centers

The unit cost of time, per minute, is related to service and administrative cost centers.

E. Defining and grouping activities related to the different jobs and the time of their events

Through the field study of the researcher and visits to the factory and studying the reality of the production of the men's suit in it, activities related to the performance of various jobs were identified. As well as "on determining the time for implementing the events of these activities and the party responsible for each event and trying to collect them in cost pools. By noting that through time information, time equations can be applied to the activities of each of the jobs related to the production of the men's suit in preparation for the cost of operating. The jacket was tied and the hookah hook is as follows:

- Identify and group activities related to the function of sewing a jacket chest and tying a bottle

The time equation for the function of sewing a jacket chest and tying a bottle is as follows:

Time taken to perform the function of sewing the jacket chest and tying the bottle (time in minutes) = 33.58 The time of the job of sewing the jacket chest and tying the bottle + 1.8 (receiving the work order and ordering the materials) + 0.9 (planning, designing, evaluating the template and preparing the work order) + 0.5 (signing the document) + 1.25 (Examination of completed work) +1.2 (Maintenance) +1 (Transformation of completed work into a sewing job for the jacket in relation to the jacket and to the job of completing the rest of the suit parts)

The time equation can be prepared for the rest of the jobs in the same way.

F. multiplying the unit cost of time for each resource group at the time the activity occurred

In this step, the unit cost of time (minute) is multiplied by each resource group described in Table (2) at the time of each activity that was calculated in the time equation in step (c) so that the total cost of resources represented by the operating cost (labor and industrial costs) is obtained Indirect) for each of the laboratory division jobs related to men's suit production. My agencies:

- The function of sewing the jacket chest and tying the bottle: Table (3) shows the results of the process of calculating the operating cost of the function of sewing the jacket and tying the channel.

Table 3. The operating cost of the chest stitching and tie hook

#	Activity (1)	Activity event time (min) (2)	the unit cost of time (D / min) (3)	Operating Cost (4) (2 x 3)

1	Receipt and transfer of raw materials + sewing	33.58	178.311	5987.68338
2	Receive work order and order materials	1.8	273.56	492.408
3	Planning, design and evaluation of the template + preparation of the work order	0.9	79.089	71.1801
4	Sign the document	0.5	79.096	39.548
5	Examination of the work done	1.25	70.634	88.2925
6	Maintenance	1.2	73.685	88.422
7	Transferring the completed work	1	78.842	78.842
Total				6846.37598

When calculating the operating cost of other jobs related to the production of men's suits, we obtain the following results:

- The cost of operating the Jordan sewing job = 5046.908834
- The cost of operating the liner preparation function = 4195.12457
- The cost of operating the back jacket and collar preparation function = 6345.229517
- The cost of operating the jacket gathering function and collar tie with the body = 7333.168722
- The cost of operating the Jordan hook function = 5029.875637
- The cost of operating the cleaning, riveting and final sewing jobs = 9245.413547
- The cost of operating the bra sewing function = 7590.171898
- The cost of operating the back-sewing function = 6689.709282
- The cost of operating the trousers hook function = 3633.2931
- The cost of operating the trouser belt hook function = 4965.471449
- The cost of operating a seat stitching function = 2885.381211
- The cost of operating the booster and cleaning function and completing the delivery = 2660.575784

G. G- Calculating the cost of the product

After calculating the operating cost for each job related to the production of the men's suit, its total cost is calculated by adding the costs of the materials included in each of them. As well as determining its share of marketing and administrative costs, as shown in Table (4).

Table 4. Determining the cost of a men's suit

Functions	**Material costs (1)**	**Operating costs (2)**	**Manufacturing costs (3)**	**Marketing and administrative costs 10% (4)**	**Total**
Sew the jacket chest and tie the bottle	12450	6846.37598	19296.37598	1929.637598	21226.01358
Prepare the soup	4885	5046.908834	9931.908834	993.1908834	10925.09972
Prepare the liner	3420	4195.12457	7615.12457	761.512457	8376.637027
Prepare the back and collar of the jacket	6932	6345.229517	13277.22952	1327.722952	14604.95247
Collect the jacket and tie the collar with the body	305	7333.168722	7638.168722	763.8168722	8401.985594
The hook and buttocks are finished	347.5	5029.875637	5377.375637	537.7375637	5915.113201
Cleaning and resting, and making the final preparations	458	9245.413547	9703.413547	970.3413547	10673.7549
Tailoring your underpants	6280	7590.171898	13870.1719	1387.01719	15257.18909
Sew back	5905	6689.709282	12594.70928	1259.470928	13854.18021

pants					
Tie the sides of the pants	820.5	3633.2931	4453.7931	445.37931	4899.17241
Tie bows shorts	4492	4965.471449	9457.471449	945.7471449	10403.21859
Seat stitching	356	2885.381211	3241.381211	324.1381211	3565.519332
Reinforcement, cleaning and delivery	1884	2660.575784	4544.575784	454.4575784	4999.033362
Total	48535	72466.70	121001.70	12100.17	133101.87

It is noted from the above table that the cost of the men's suit in the laboratory, the study sample has become 133101.87 dinars, according to the application of the cost technique on the basis of activity directed at the four-stage time. While the reality of the cost system applied in the laboratory indicates that the total cost of the allowance amounts to 186428 dinars, as shown in Table (2). This means a decrease in the cost of a man's suit by 53,326.13 dinars, and therefore the importance of applying the cost technique on the basis of the four stages time driven activity-based costing in the men's clothing factory in Najaf is clear to manage the cost by reducing it. This will result in the lab being able to compete while providing information that helps the lab make the right decisions, looking for customer requirements to meet it. This represents evidence that the application of cost technology on the basis of four-stage time-driven activity-based costing in Iraqi business organizations will provide a sound business approach to product management.

4. Conclusions and Discussion

The increase in global competition and technological progress with accelerating events has made economic units operate in a targeted business environment according to the desires of the customer and they must fulfill those desires if they want to stay and compete in the contemporary business environment by applying modern techniques in cost management. The application of the cost technique on the basis of the four stages time driven activity-based costing is only an attempt to address the shortcomings that accompany the application of other technologies, including the cost on the basis of the time-oriented activity. Its role comes in the area of determining the costs and energy of resources at a certain level which is the product without paying attention to the departments and functions and trying to define them in order to take appropriate decisions. On the other hand, economic units need, in light of the accelerating events, modern methods and techniques in cost management that help them support the competitive advantage to face the challenges of intense competition, which is the ability of the economic unit to own resources that are not available to other competitors, or to invest its resources in an optimal manner that gives them preference Over its competitors. The cost method is based on the four stages time driven activity-based costing of modern cost management techniques that help the economic unit achieve its goals in light of the changes taking place in the modern business environment. The method applied to cost accounting in the Iraqi business environment in general and the men's clothing factory in Najaf, the sample of research in particular, is based on traditional concepts. There is a great variation in the way it is applied, in addition to the fact that the laboratory was unable to exploit the idle energy it has. The reason for this is due to the internal conditions represented in cost management according to traditional and external methods that surround it, such as dumping the local market with similar imported products and from different origins. Accordingly, he witnessed a decrease in demand for the product due to the customer's reluctance to buy factory products, which was explained by the lack of a specific policy in the pricing process for factory products. The factory relies on the traditional entrance (cost + profit margin) in determining the selling prices of its products without taking into consideration the prices of competing products that are less than the selling price of the products of the factory represented in men's suit. On the other hand, the selling price of the men's suit product for a factory that is determined by the factory according to the traditional entrance depends on the cost, which in turn suffers from a significant increase. This leads to an increase in the selling price by adding the profit margin to the cost and trying to search for techniques by which the costs are reduced, the most prominent of which is the cost technology on the basis of a four stages time driven activity based costing that is able to show the cost in a regular way. Useful information can be obtained to help the laboratory study sample focus on the departments, functions or activities. Moreover, it supports the laboratory's research sample by identifying untapped energy and working to exploit it. Hence, it exceeds the shortcomings in this aspect that the departments, jobs and activities related to the production of men's suits in the factory suffer from.

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