



COST REDUCTION USING ACTIVITY-BASED COSTING (ABC) TECHNIQUE (AN EMPIRICAL STUDY IN AL-RAKLIM FACTORY / BABEL TIRES FACTORY)

Ayad Raheem Jalfan⁽¹⁾

ayad.raheem@mu.edu.iq

Al-Muthanna University / College of Science

Amer Mansoor Hasoon⁽²⁾

amermansoor@mu.edu.iq

Al-Muthanna University / College of Dentistry

<https://orcid.org/0000-0002-5231-9000>

Article history:

Received: 24th November 2022
Accepted: 26th December 2022
Published: 30th January 2023

Abstract:

The products of the economic (industrial) entities operating in the Iraqi environment face intense competition from imported products, due to several problems, the most important of which is the high production costs and the lack of interest by these units in studying the market, as well as the lack of government support in the manufacturing sector and sinking the local markets with imported products at a price and specifications. Competitiveness, in addition to the reliance of these entities on traditional systems in determining the costs of their products, as these systems do not provide appropriate information for pricing decisions, which requires studying and analyzing these problems and working to address them by relying on modern technologies that enable industrial economic entities to compete. The research is based on the statement of the knowledge bases of activity-based costing technology and the study and analysis of the role of activity-based costing technology in reducing costs. (ABC) in the research sample (Al-Raklim Factory) contributed to reducing costs with an amount of (67420602) only sixty-seven million four hundred twenty thousand six hundred and two Iraqi dinars for the main activities of the factory through distributing the indirect costs of these activities in a more fair and objective manner, as these costs are not related to the Rakelim factory, taking into account maintaining the required level of product quality and maximizing the level of customer benefit.

Keywords: Activity-Based Costing Technique, Cost Reduction

INTRODUCTION

Economic entities are currently facing a complex environment represented by the need to produce products of high quality and relatively low cost, in addition to the pressures resulting from the intensity of competition and the increase locally and globally, and because of these challenges, it was necessary for the economic entities that wish to continue and compete for a longer period in the markets by making changes significant in the field of cost management through the application of one of the strategic cost management techniques, which is (ABC) technology, which aims to improve the performance of activities and enhance the ability of the economic entities to meet the requirements of the modern environment to measure the cost of its products more fairly and objectively and

work to reduce this cost to the minimum without prejudice With the quality of the product, and in order to achieve the objectives of the research, it was divided into four sections. Which dealt with the most important conclusions and recommendations reached by the researchers .

THE FIRST TOPIC / RESEARCH METHODOLOGY

First / Research problem: Most of the economic entities operating in the Iraqi environment face several challenges, The most important of them is their inability to compete and continue due to several problems, the most important of which are the high production costs, the obsolescence of machines and equipment, Increase in the number of workers, and the inadequacy of the traditional costing systems applied in these entities to determine the costs of



products more fairly. And objective. Accordingly, the research problem is represented by the following question :

Does the application of activity-based costing technology contribute to reducing product costs?

Second / The importance of the research: The importance of the research at the present time is evident from the need of the economic entities (industrial) that operate in the Iraqi environment to improve their performance to face competition from imported goods and stay in the market for longer periods by relying on modern techniques of strategic cost management techniques, which is a technique Costs based on activities and explaining their role in reducing product costs by providing important cost information on activities that do not add value to production processes and contributing to better cost management and thus achieving competition and staying in the market for long periods .

Third / Research Objectives:

1. Statement of the knowledge foundations of activity-based costing technology.
2. Studying and analyzing the role of activity-based costing technology in reducing costs .

Fourth / research hypothesis: Based on the research problem, the researchers will try to prove or refute the following hypothesis: The use of activity-based costing technology contributes to reducing product costs

THE SECOND TOPIC

Theoretical Framework Of (ABC) Technology And Its Role In Reducing Costs .

First: Activity-Based Costing (ABC) technology, its origin and concept

The emergence of the real application of ABC technology began in 1987 in the United States of America, when Kaplan & Cooper published an article in the Harvard University Management Journal and the Department of Accounting and Management entitled (How Cost Accounting Reduces Product Costs Regularly: A Field Study), (Rebischke, 2005:12) The ABC technique is a complementary technique to the traditional method. It is one of the distinguished strategic cost management techniques since its inception, because it provides objective cost information and contributes to achieving effectiveness on indirect costs by addressing deficiencies Oriented to the traditional method (Traditional Costing)), and the evaluation of the concept of this technology on the basis that the results of products or the provision of services in any economic entities requires that this economic entity carry out several activities and these activities require costs and resources, and therefore this technology is based on a basic idea that is cost reduction that does not It can be allocated directly by the product or service to the activities that cause it, and then this contributes to allocating the costs of each activity to the products or services easily and according to the degree of expected benefit from that benefit activity (Al-Jubouri, 2015: 267). Table (1) shows definitions of activity-based costing techniques by some writers and researchers .

Table (1) Definitions Technology of Activity-Based Costing (ABC)

Se qu en cin g	Researcher name	Definition
1	(Blocheretal,2010:27)	It is a relatively new technology in cost accounting, the aim of which is to determine costs more accurately, as this technology was adopted by economic entities in many different industries within government institutions as well as non-profit economic entities.
2	Hilton&Platt,2014:168))	It is a technique by which indirect costs are distributed in two phases. The first is to collect the elements of indirect costs with specific cost aggregates. The second is to allocate these costs to the final cost objectives of products or services, depending on appropriate cost causes that are appropriate to the nature of each element of the indirect costs .
3	(Horngren,et al,2018:160)	It is the best tools used to improve the costing system by identifying individual activities and adopting them mainly in calculating the costs of products or services.

From the foregoing, it is clear to us that the ABC technique is that technique that is based on the allocation of indirect costs by collecting indirect costs for each activity of the economic entity in cost pools and then charging the costs of these activities to the final cost targets (product or service) Depending on the appropriate cost causes .

Second: Steps to apply costing technique based on activity (ABC)

The first step: identify the activities

According to this step, all the activities of the economic entity that jointly participate in the production of a product or service are identified, and this step is difficult because it requires an understanding of all these activities, and the activities are defined as the actions associated with the tasks after assembling them. This activity consists of a number of different tasks, which are receiving the purchase order, preparing purchase orders, identifying suppliers, sending purchase requests in the mail, and following up. (Abd, Kareem, & Jassim, 2022)

The second step: allocating costs to activity cost centers

After the activities have been identified in the first step, the cost of consumed resources should be allocated here for each activity, which pertains to a specific period, in order to determine the amount spent by the economic entity on each activity, as the cost of direct resources is easily and directly allocated to each activity, but the indirect costs Such as heating and lighting costs, the process of allocating them to

each activity is not easy, since many activities share these resources, so it is necessary to estimate the appropriate cost causes for allocating these resources to activities .

The third step: Determine the appropriate Cost drivers to allocate the cost of activities to the cost objectives

Under this step, an appropriate loading basis or the so-called cost drivers is chosen in order to allocate the costs of each activity center. Two important factors should be taken into account when determining the appropriate cost drivers for each activity center. The first is that it provides a good explanation for the costs of each activity center, and the second is: This reason should be measurable and easily, in addition to the ease of obtaining data and the possibility of identifying it with the products.

The fourth step: charge the costs of the activities on the products

Under this step, the costs of the activity centers are charged to the final cost targets (products, services) depending on the appropriate cost causes for each activity cost center, and then the cost of the economic entity of the product or service is determined .

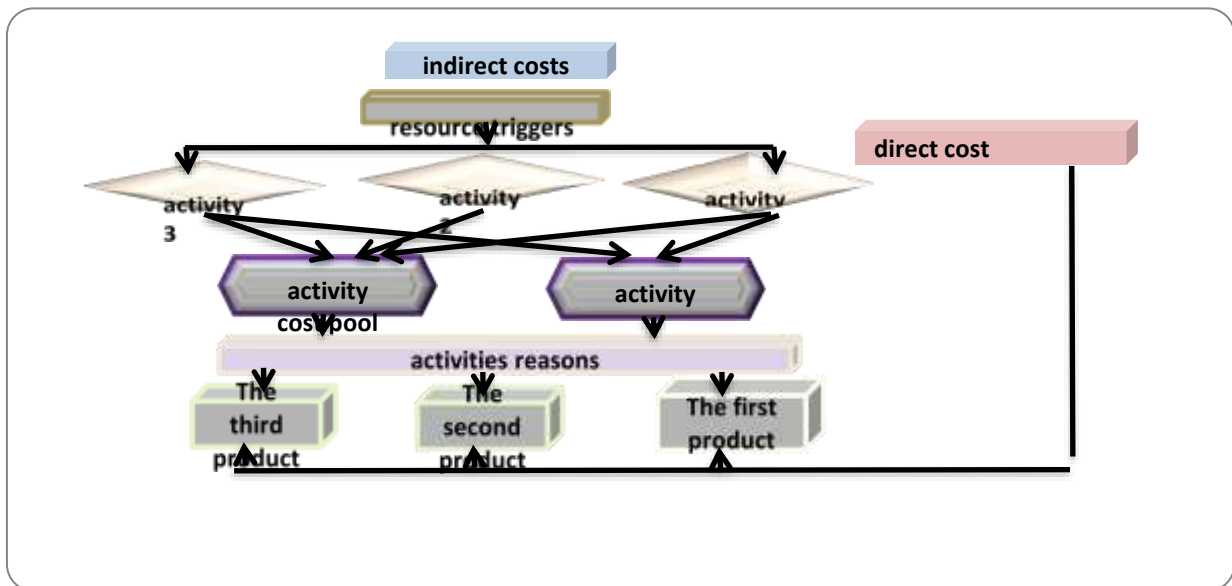


Figure (1) shows the steps for applying the ABC technique
 source :Noman, Lubna Hashem,(59:2017),

The effect of the costing system based on activities on the quality of accounting information and improving performance –an applied field study on a sample of

Iraqi industrial companies, a thesis submitted to the College of Graduate Studies – Accounting



Department / al-Neelain University to obtain a Doctorate degree in accounting.

Figure (1) aforementioned shows the steps for applying the ABC technique, as direct costs are allocated directly to the final cost targets (product, service) such as direct material costs and direct labor costs, while indirect costs are allocated to products or services in two phases. The first is distributed in it, the costs of resources on activities are in the amount of their consumption of these resources, depending on the appropriate resource causes, and then the costs of these activities are collected in the activity cost complexes and charged as a second stage on the final cost objectives (products, services) depending on the appropriate activities causes.

Third: The advantages of applying the costing technique based on ABC activities There are several advantages or benefits that the economic entity can achieve when applying the ABC technique, as follows:

1. A better measure of profitability: ABC technology provides accuracy in determining product costs, which helps in providing more accurate measures of the profitability of products and customers, and contributes to making the best strategic decisions related to pricing, product lines, and market sectors (Blocher et al, 2010:133).
2. Supporting cost control and management mechanisms by accurately identifying events and activities that cause costs to arise (Abbas & Wagdi, 2014:2).
3. The ABC technique identifies the behavior of activity costs accurately and helps reduce costs by analyzing activities into value-adding activities that are supported and activities that do not add value to the product that are excluded and helps managers control fixed indirect costs by knowing the activities that cause these to arise Costs (Salem & Mazher, 2014: 41) .
4. It assists managers in reducing and rationalizing consumed resources by improving performance levels when carrying out sales and marketing operations, as well as improving the performance efficiency of the economic entity as a whole through the use of modern technologies such as total quality management, as well as its contribution to providing financial and non-financial information about the economic entity Thus increasing profitability and improving the performance of activities (Sorour and Ali, 2017: 316).
- 5- Continuous improvement of the operations of the economic entity and the elimination of all deficiencies associated with traditional costing systems through the analysis of activities and focus on value-adding

activities and the elimination of non-value-adding activities for the product or service (Raniyah, 2013: 30).

Fourth: ABC technology and cost reduction

Cost reduction is defined as that planned method, which aims to focus on improving efficiency through the optimal use of cost elements, as well as speed in completing operations or increasing production, in a way that leads to reducing the cost of one unit of the product or service without affecting its quality or functionality (Al-Hamdani and Abdul Hussain, 2013: 480) .

The application of (ABC) technology by the economic entity contributes to the provision of financial and non-financial information. Financial information is represented by determining the cost of one unit of the product or service in a more objective way, which contributes to reducing costs by reducing the consumption of available resources by linking activities with the resources they consume. Providing non-financial information about the activities and operations of the economic entity contributes to reducing costs and raising the efficiency of activities performance by excluding activities that do not add value and are unnecessary to the economic entity. This technique is one of the strategic cost management techniques that contribute to reducing costs through managing and understanding activities. And knowing the causes of their costs and controlling them (Abu Rashid and Al-Hussein, 2020: 472) .

The third topic / application of activity-based costing (ABC) technology and its role in reducing costs in the Babylon Tire Factory / Al-Raklim Factory .

In this topic, the practical aspect of the research will be addressed, which was applied in the Babylon Tire Factory / Al-Raklim Factory, one of the formations of the Iraqi Ministry of Industry and Minerals .

First: An introductory overview of the Al-Raklim Factory (research sample)

In 1993, the General Company for Tire Industry in the Babylon Tires Factory added the Al-Raklim factory, which specialized it in the production of (recycled rubber and crushed rubber) by using used tires. Part of the raw materials that go into tire production at the Babylon Tire Factory, and the other part is marketed to the private sector, which is involved in many industries and rubber goods . The Al-Raklim factory affiliated to the General Company for Rubber and Tire Industries was chosen for the following reasons



1. The factory building is separate from the factory building, in addition to the diversity of the products it produces.
2. Most of the parts of the product are obtained from inside the country by withdrawing used tires that are available in the country with citizens and government institutions and recycling them .
3. Great cooperation with the two researchers by providing the necessary data.

Second: - Calculating product costs according to (ABC) technology

In this topic, the (ABC) technology will be applied in the Al-Raklim factory to calculate the factory products, which are divided into two products:

(recycled rubber and crushed rubber) according to the following steps:

The first step: According to this step, the activities of the Al-Raklim factory will be divided into main activities, which are (cutting activity, grinding and screening activity, molding activity, inspection and quality activity) and supporting or supplementary activities are (maintenance activity, marketing services activity, administrative services activity, warehouse activity) Below shows the direct and indirect manufacturing costs of the Al-Riklim Factory for the main activities of the Al-Riklim Factory, according to the trial balance of the Al-Riklim Factory for the year 2021.

Table (2) the direct and indirect manufacturing costs of the Al-Rakelim factory

Account number	Sub-account number	Cost items	Partial amount (In Iraqi dinars)	The total amount (In Iraqi dinars)	The total (In Iraqi dinars)
32		Commodity supplies			
		direct materials		11778000	
		direct labor		244800000	
322		fuel and oils		2900000	
323		Spare part tools			
327		Water and electricity		5515250	
	3271	Water	500000		
	3272	electricity	5015250		
		Total commodity supplies			10140250
	331211	Maintenance of manufacturing buildings	10000000		
		Total service requirements			10000000
37		Depreciation			
372		Depreciation of buildings, constructions and roads	1655000		
373		Depreciation of machinery and equipment	11400000		
375		Depreciation of tools and templates	5650000		
376		Depreciation of furniture and office equipment	980000		
		Depreciation Total			19685000
		The total direct and indirect manufacturing costs of the Al-Rakelim factory			296403250

Source: Prepared by the two researchers based on the detailed trial balance as on 12/31/2021 .

In table (2) mentioned above, it is clear that the total direct and indirect manufacturing costs included in the trial balance for the Al-Raklim factory amounted to

(296,403,250) two hundred and ninety-six million four hundred and three thousand two hundred and fifty Iraqi dinars .



The second step: calculate the rates of allocation of indirect manufacturing costs to the main activities . According to this step, the cost drivers will be determined for the indirect manufacturing costs items in order to determine the distribution rate for each

item of the indirect manufacturing costs by dividing the cost of each item by the amount of the cost driver according to a unit of measurement, as shown in Table (3) below:

Table (3) Calculating the rates of allocation of indirect manufacturing costs to the main activities

Item name	cost driver	item costs (In Iraqi dinars)	amount	Rate (In Iraqi dinars)
fuel and oils	Machine operating hours	2900000	22,704 hours	127.730
Spare part tools	Machine operating hours	1725000	22,704 hours	75.977
water	Actual quantity needed in cubic meters	480000	4000 m3	120
electricity	The actual quantity needed is in kilowatts	5015250	83587.5 kW	60
Maintenance of manufacturing buildings	The space occupied by the activity	10000000	1300 square meters	7692.307
Depreciation of buildings, constructions and roads	The space occupied by the activity	1655000	1300 square meters	1273.076
Depreciation of machinery and equipment	Machine operating hours	11400000	22,704 hours	502.114
Depreciation of tools and templates	Machine operating hours	5650000	22,704 hours	248.854

Source: prepared by the two researchers based on the documentary and records collection of the Al-Rakelim Factory .

In Table (3) aforementioned, the actual rate for each item of indirect industrial costs was calculated for the purpose of distributing these costs to the main activities, as it was relied on different cost causes represented by the operating hours of the machines, causing costs for items (fuel, oils, spare tools, and machinery depreciation and equipment and the deterioration of tools and moulds), the actual quantity needed in cubic meters for the item of water, the actual quantity needed in kilowatts for the item of electricity, the occupied area for the item of maintenance of manufacturing buildings and the item

of Depreciation of buildings, and the number of workers for the item of Depreciation of furniture, and the total quantities for each cost cause were determined through Relying on the factory records, in addition to the interviews conducted by the researchers with the director of the Al-Raklim factory (Engineer Imad Baqer), and the director of the maintenance department (Engineer Nima Ali) . After calculating the actual charge rate for each item of indirect manufacturing costs, the share of each activity will be determined from these costs, as in the following tables :

Table (4) costs of tire cutting activity

activities	Item name	The appropriate cost reason	The amount of the cost reason	actual rate (In Iraqi dinars)	activity share (In Iraqi dinars)
Tire cutting activity	direct materials	direct	-	-	5120000
	direct labor	direct	-	-	90000000
	water	The actual amount	1800 m3	120	216000



		of water consumed			
	electricity	The amount of electricity actually consumed	12000 kW	60	720000
	Depreciation of buildings, constructions and roads	The space occupied by each activity	300 square meters	1273.076	381923
	Depreciation of machinery and equipment	The number of hours actually used for machines to operate	118 hours (1)	502.114	59249
	Depreciation of tools and templates	The number of actually used machinery hours	118 hours (2)	248.854	29365
Total					96526537

Source: prepared by the two researchers based on Table (3)

In table (4) mentioned above, the share of tire cutting activity was determined from each item of direct and indirect manufacturing costs, as the total manufacturing costs for this activity amounted to

(96526537) only ninety-six million five hundred and twenty-six thousand five hundred and thirty-seven Iraqi dinars.

Table (5) costs of the grinding and screening activity

activities	Item name	The appropriate cost reason	The amount of the cost reason	actual rate (In Iraqi dinars)	activity share (in Iraqi dinars)
the grinding and screening	Direct salaries and wages	direct	—	—	63000000
	water	The actual amount of water consumed	750 m3	120	90000
	electricity	The actual amount of electricity consumed	42,000 kW	60	2520000
	Depreciation of buildings, constructions and roads	The space occupied by each activity	400 square meters	1273.076	509230
	Depreciation of machinery and equipment	The number of hours actually used for machines to operate	154 hours (3)	502.114	77326
	total				

Source: prepared by the two researchers based on Table (3)



Table (6) costs of formation activity

activities	Item name	The appropriate cost reason	The amount of the cost reason	actual rate (in Iraqi dinars)	activity share (in Iraqi dinars)
formation activity	direct materials	The amount actually consumed of Deuteronx	99 kg x 60 tons	150	891000
	Direct salaries and wages	The number of hours actually worked	60 tons x 16 hours/ton	3237.21	4500000
	water	The actual amount of water consumed	300 m3	120	36000
	electricity	The actual amount of electricity consumed	20000 kW	60	1200000
	Depreciation of buildings, constructions and roads	The space occupied by each activity	245 m2	1273.076	311904
	Depreciation of machinery and equipment	The number of hours actually used for machinery and equipment to operate	1056 hours (4)	502.114	530232
The sum of the actually consumed cost of the forming activity's resources					47969136

Source / prepared by the two researchers based on Table (3).

- . $60 \text{ tons} \times 1 \text{ hour / ton} + (68 \text{ tons} \times 0.5 \text{ hours / ton}) = 94 \text{ spent actual working hours} (1)$
- . $\text{actual working hours spent} \div 4 \text{ actual working hours in the production process per day} = 24 \text{ days } 94$
- . $\text{preparatory work hour} \times 24 \text{ days} = 24 \text{ spent actual working hours } 1$
- . $\text{hours} + 24 \text{ hours} = 118 \text{ spent actual working hours } 94$
- . $\text{tons} \times 1 \text{ hour / ton} + (68 \text{ tons} \times 0.5 \text{ hours / ton}) = 94 \text{ spent actual working hours } 60 (2)$
- . $\text{actual working hours spent} \div 4 \text{ actual working hours in the production process per day} = 24 \text{ days } 94$
- . $\text{preparatory work hour} \times 24 \text{ days} = 24 \text{ spent actual working hours } 1$
- . $\text{hours} + 24 \text{ hours} = 118 \text{ spent actual working hours } 94$
- (3) $(60 \text{ tons} \times 1 \text{ hour / ton}) + (68 \text{ tons} \times 1 \text{ hour / ton}) = 128 \text{ spent actual working hours.}$
- . $\text{actual working hours spent} \div 5 \text{ actual working hours in the production process per day} = 26 \text{ days.} 128$
- . $\text{preparatory work hour} \times 26 \text{ days} = 26 \text{ spent actual working hours } 1$
- . $\text{hours} + 26 \text{ hours} = 154 \text{ spent actual working hours.} 128$
- . $\text{tons} \times 16 \text{ hours / ton} = 960 \text{ spent actual working hours } 60 (4)$
- . $\text{actual working hours spent} \div 5 \text{ actual working hours in the production process per day} = 192 \text{ days } 960$
- . $\text{preparatory working hours} \times 192 \text{ days} = 96 \text{ spent actual working hours } 0.5$
- . $\text{hours} + 96 \text{ hours} = 1056 \text{ spent actual working hour } 960$



Table (7) costs of inspection activity and quality

activities	Item name	The right cost reason	The amount of the cost reason	actual rate (in Iraqi dinars)	activity share (in Iraqi dinars)
Inspection activity and quality	Direct salaries and wages	direct	-	-	18000000
	water	The actual amount of water consumed	150 m3	120	18000
	electricity	The amount of electricity actually consumed	4000 kW	60	240000
	Depreciation of buildings, constructions and roads	The space occupied by each activity	5 m2	1273.076	6365
The sum of the cost actually consumed of the quality and inspection activity resources .					18264365

Source / prepared by the two researchers based on Table (3).

Table (8) The actual direct work hours for each product within each activity

product name	Tire cutting activity time/hour	the grinding and screening time / hour	formation activity time/hour	Inspection activity and quality time/hour
Rakelim rubber	2400	60	960	900
rubber crush	2720	68	40	680
the total	5120	128	1000	1580

Source / prepared by the two researchers based the costs records in Raklim factory.

activity	cost reasoned	activity costs	The amount of the cost reason	the average
Tire cutting	Actual direct working hours	(in Iraqi dinars)	5120 hours	18852
grinding and screening	Actual direct working hours	96526537	128 hours	517161
formation	Actual direct working hours	66196556	1000 hours	47969
Inspection activity and quality	Actual direct working hours	47969136	1580 hours	11560

Source: prepared by the two researchers based on tables (4, 5, 6, 7, 8)

Table (10) The share of the raklim rubber product in the activity costs

activity	cost reasoned	the average	The amount of the cost reason	Producer's share of activity costs (in dinars)
Tire cutting	Actual direct working hours	18852	2400 hours	
grinding and screening	Actual direct working hours	517161	60 hours	45244800
formation	Actual direct working hours	47969	960 hours	31029660
Inspection activity and quality	Actual direct working hours	11560	900 hours	46050240



Source: prepared by the two researchers based on tables (8, 9)

Table (11) The share of the rubber crushed product in the activity costs

activity	cost reasoned	the average	The amount of the cost reason	Producer's share of activity costs
Tire cutting	Actual direct working hours	18852	2720 hours	(in Iraqi dinars)
grinding and screening	Actual direct working hours	517161	68 hours	51277440
formation	Actual direct working hours	47969	40 hours	35166948
Inspection activity and quality	Actual direct working hours	11560	680 hours	1,918,760
Total				96223948

Source: prepared by the two researchers based on tables (8, 9)

Table (12) Direct and indirect industrial costs of the raklim factory after applying the ABC technology .

product name	Manufacturing costs (direct, indirect)
Raklim rubber	132728700
rubber crush	96223948
the total	228952648

Source: prepared by the two researchers based on tables (10, 11)

Source: prepared by the two researchers based on tables (10, 11)

In table (12) aforementioned, the manufacturing costs (direct and indirect) were calculated for the Al-Raklim factory after applying the ABC technology. What it was before applying this technology, and accordingly, this technology showed that there are costs that were unfairly charged to the Al-Raklim factory, and they are not related to this factory, and accordingly the research hypothesis was proven (that the use of activity-based costing technology contributes to reducing product costs) .

THE FOURTH TOPIC

First: Conclusions

This topic deals with the most important conclusions of the research, as follows:

1-The (ABC) technology has contributed to addressing the determinants of traditional costing systems by allocating indirect costs more fairly and objectively on the final cost objectives (products, services), and this technology also provides detailed information for the management of the economic entity by linking the cost to its cause .

2- The application of (ABC) technology in the research sample (Al-Raklim Factory) contributed to reducing costs by the amount of (67420602) only sixty-seven million four hundred and twenty thousand six hundred and two Iraqi dinars) for the main activities of the factory through the distribution of the indirect costs of these activities in a more fair and objective way As these costs are not related to the Rakelim factory,

taking into account maintaining the required level of product quality and maximizing the level of customer benefit.

3-The application of (ABC) technology contributes to identifying activities with high costs, as well as providing the necessary information for the management of the plant for the purpose of making the necessary decisions to address this rise by choosing the appropriate means and methods for that .

Second: Recommendations

Based on the conclusions reached, the research reached a set of recommendations, the most important of which are :

1-In the presence of the current business environment, the economic entity in general and the Al-Raklim factory in particular should apply modern cost technologies that contribute to reducing the costs of their products, and this technology is the (ABC) technology .

2- The management of the Al-Raklim factory (the research sample) should study the reasons for the high costs of its main activities and seek to reduce them through optimal utilization of the available resources and the prevention of waste in order to maximize achievement .

3- The management of the Al-Raklim Factory (research sample) should develop the administrative and technical staff by providing the necessary



developmental and training courses to contribute to improving their skills, which will reflect positively on achieving the objectives of the Al-Raklim Factory (the research sample), most notably reducing the costs of its products by applying modern cost technologies.

REFERENCES

1. Abd, W. H., Kareem, A. D., & Jassim, E. E. (2022). The role of the modern COSO framework in evaluating the internal control system through the mediating role of the internal auditor. *Res Militaris*, .
2. Babel Tires Factory, the book and documentary collection of the relevant departments and divisions of the factory for the year 2020.
3. Babel Tires Factory, the trial balance of the Al-Raklim Factory for the year 2020. 2
4. Al-Jubouri, Nassif Jassim, (2015), *Advanced Cost Accounting*, University of Baghdad, College of Administration and Economics, Curriculum Library .
5. Al-Hamdani, Bahaa Hussein & Abdel-Hussein, Roaa Hussein (2013), The role of total quality tools in reducing costs and improving quality, *Journal of Economic and Administrative Sciences*, Issue 70, Folder 19 .
6. Abu Rasheed, Hayel & Al-Hussein, Ismail Khalil, (2020), the activity-based costing system (ABC) and its impact on reducing the cost of educational services in Syrian public universities - an applied study on the University of Aleppo, *Journal of the Baghdad College of Economic Sciences*, Issue 62 .
7. Sorour, Manal Jabbar & Ali, Moad Hamid, (2017), integration between the costing system based on activities and the flexible standard costing system and its role in managing the resources of activities, *Baghdad University College of Economic Sciences Journal*, Fifty-third Issue .
8. Rania, Ghassab, (2013), the use of integration between modern technologies for cost systems, pricing management and budgeting based on activities to build a competitive advantage in the economic institution- case study: The Great Mills Corporation of the South GMSud - Umash - Biskar, submitted letter for obtaining a doctoral degree, the third phase (LMD) in Commercial Sciences / University of Muhammad Khider - Biskra - Faculty of Economic, Commercial and Management Sciences, Department of Commercial Sciences .
9. Noman, Lubna Hashem, (2017), The impact of the costing system based on activities on the quality of accounting information and improving performance- An applied field study on a sample of Iraqi industrial companies, a thesis submitted to the College of Graduate Studies Department of Accounting / Al-Neelain University to obtain a PhD in Accounting .
10. Edward J., Stout, David E., Cokins, Gary,(2010), *Cost Management: A Strategic Emphasis*, Fifth Edition, New York, McGraw_Hill Companies, Inc.
11. Drury, Colin,(2018), *Management and Cost Accounting*, 10th Edition, British, British Library.
12. Horngren ,Charles T. Datar, Srikant M. Rajan, Madhav V. Wynder, Monte. Maguire, William. Tan, Rebecca,(2018), "Cost Accounting A Managerial Emphasis." 14th Edition, ISBN: 0132109174.
13. Hilton, R.W., and D.E. Platt. (2014). "Managerial Accounting: Creating Value in Dynamic Business Environment." Tenth Edition, Library of Congress Cataloging-in-Publication Data.
14. Abbas, Karim& Wagdi, Osama,(2014), *Cost Systems Adoption in Egyptian Manufacturing Firms: Competitive Study Between ABCand RCA Systems*,21st International Economic Conference,Sibiu,Romania,May 16-17,2014.
15. Rebeschke, S. A.(2005). "Activity – Based Information For Financial Institutions." *Journal of performance Management* , VOL . 1, in May .
16. Shaban E. A. Salem&Shabana Mazhar). "The Benefits of the Application of Activity Based Cost System - Field Study on Manufacturing Companies Operating In Allahabad City – India" *Journal of Business and Management (IOSR-JBM Volume 16, Issue 11.Ver. I (Nov. 2014), PP 39-45 .*