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THE BASES OF APPLICATION THE SYSTEM OF TIME- DRIVEN ACTIVITIES- BASED COSTING: A FIELD STUDY IN THE IRAQI INDUSTRIAL COMPANIES

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Abstract: *This paper aims tostudy and analysis the Time–Driven Activities Based Costs (TD-ABC), as a concept, principles, dimensions, and requirements of its application.To achieve that aim and to test the validity of hypotheses, we designed a questionnaire aimsto measuring the availability of the elements of application of (TD-ABC) in the Iraqi Industrial Companies (IIC).The questionnaire was analyzed by using the statistical package of social science (SPSS). The researchers adopted the descriptive analytical approach to analyze the data, several results were reached among of which:The application of TD-ABC in (IIC), economically justified because it helps when applied to remove all activities that strain the company's indirect costs, and the results showed a tendency the paragraphs of this variable about average and the arithmetic average of 3.8542.*

Keywords: *Time-Driven Activities-Based Costing. Iraqi Industrial Companies, Activities-Based Costing, Time Equations.*

1. INTRODUCTION

We can describe the world, generally, in three words which are: "competition, technology, and communications," It has led to increase the mechanism of production, and result is increasingthe need to develop cost systems.The top management of any firm tended to take many decisions that require more accuracy of financial and accounting information. In the1980's we witnessed born the Activity Based Costing systemto count the costs of products and services are based on the activities, the main objectives at that time was to overcome the weaknesses of the traditional cost system for allocating overhead costs. After several years, the application of this system shown a small percentage in world, and the system of activities costs is exposure to many criticisms; its need to lot of time and going up the costs of information system, and

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difficulty of continuing to applythe system in the case of changes in usingthe resources and activities, prompting many companies to abandon the application of the system and the transition to the system of time-driven activities-based costing, which is the most appropriate in light of a rapidly changing environment in its operations and it is provide accurate and appropriate information for each administrative level.

2. LITERATURE REVIEWS

The ABC system has been in used since mid-1980's in different sectors and different countries. It provided a valuable information for different users, specially management, and the overall goal of the system was how to allocate indirect cost in such a way to have more cost fingers accurate. But the system faced many difficulties such as, the setting and operating the system very costly, and need to update from time to time. These problems lead Kaplan and Anderson (2004) to modify it to Time-Driven Activity Based Costing system. The new systems "cannot only be implemented quicker (and thus cheaper), but also updated easier, than traditional ABC systems" (Eli *et al* 2007).

Kaplan and Anderson (2007) clarify the advantages of using time to measure the cost of the product, through the application on the seven practical cases, covering various activities (industrial, services, and managerial in USA).The study reviewed the difference in the application, and cost savings, under the time-driven activities-based costing system (TDABC), as an alternative to the traditional activity-based costing (ABC). The results of the study point out to the importance of the approach of the time equations in count the practical energy for a group of the resources that make the activity, and the cost of unit and required time for each work within the activity based on the different causes of time, in order to direct theCompanymanagementto increase the accuracy of product cost.

Gharwri, (2008) explain the general framework of TD-ABC system that treated defects of traditional activities -based costing system, with a detailed explanation of each system; and shows the most important differences betweenthem. The study tried to show the most important advantages and disadvantages of the TD-ABC system. He found that the traditional approach of ABC system avoids the arbitrary allocation of overhead costs, but the application of the system faced a lot of obstacles and problems and exposure to many of the criticisms, and showed that the (TDABC) begins to determine the actual energy factor for each of the fixed factors of production are then divided each factor on the capacity of the process of activity in order to calculate the cost of each unit of energy.

While Hon and Chu(2012), tried to compare the systems (ABC) and (TD-ABC) through the case study of the factory (Aerospace Precision Casting); to make sure of the differences between the two systems to reduce wastage in production capacity, the ability to identify shortcomings areas producing this waste. The study showed

that the untapped energy is low in some sections used for the system (ABC); which proves that the use of the unit cost by the system (TD-ABC) actually reflects the actual untapped energy, which is better than the traditional system (ABC). The study results showed also that the system (TD-ABC) abler to pinpoint areas of waste, and that the system (TD-ABC) calculates overhead costs and actual expenses through the use of the unit factor when there is a change in activities or complications in the process, this is (TD-ABC) more accuracy in the allocation of costs, the company provides more accurate cost information, and it can use the system (TD-ABC) more easily than the using of system (ABC).

Salim's (2010) provide a cost model based on activity by using time engine (TD-ABC) in application on logistic business in trading companies. The resultwas that the model provides detailed information and more accurate than the traditional ABC system, and how you can use this information in making decisions. The study showed too, that the equations of time can overcome the various complexities of logistics, since it includes different times for main and sub-activities and interactions between variables in the time equation, and the TD-ABC approach treats different types of complications in logistics processes that face the companies in their operations through using the engine the right time for each sub-task, which cannot be incorporated in the model (ABC), and finally the study showed that the use of the new model leads to increase the level of participation among sales and warehouse managers in making decisions, and contribute to the planning of available resources and to improve the distribution of staff at various departments process.

Accordance to the problems and difficulties that faced the application the system of activities–based costing (ABC), which prompted many firms to stay away from the application of this system. Kaplan and Anderson introduce a new approach for the distribution of industrial indirect costs is an extension of the system (ABC), but beyond problems and the difficulties faced by the application system (ABC), called the system of time–driven activities–based costing (TD-ABC), which is the easiest method and the fastest in the application and less in cost account, and in this area (Kaplan andAnderson, 2007) emphases that the approach of time–driven activities–based costing simplifies cost system by removing the need to conduct interviews, and load the resource costs of activities before they are loaded on the goals of cost, it uses a new approach causes time in the cost account (considered the causes of time variables or characteristics to determine the time required to perform the activity), and provides many opportunities for design accurate cost models in different activities environments, and treats the basic problems of the activity-based costing model, which include reducing the interviews costs, self-time allocation process (Siguenza, *et.al*, 2014), (Lambino, 2007), and allows to change the estimations of unit time on the basis the properties of order or activity. Therefore, (Kaplan andAnderson, 2007) see that the entity must ask two main questions before application the system (TD-ABC), namely:

1. What is the amount of the cost of providing energy resources for each process in the firm?
2. What is the amount of time required to implement the order or activity.

Therefore, (Everaert and Bruggeman, 2007) see that the system (TD-ABC) requires an estimation of the unit cost of existing resources, and the time required to perform the activity through a variety of resources.

2.1 Steps Application the TDABC

TD-ABC system was designed to overcome the inadequacies of the ABC system. The new system is simpler, less costly, and faster to implement, and allows cost driver rates to be on the practical capacity of the resources supplied (Kaplan and Anderson, 2003). The process of cost calculating within the TD-ABC system involves the following steps (Everaert, *et.al*, 2008; Kaplan and Anderson, 2004, 2007; Ljilja and Mila, 2010):

- Identify different groups of resources (departments) that implement the cost.
- Estimate the total cost for each set of resources.
- Identify the actual capacity for each set of resources (such as direct labor hours with and improbable times where there is no work, such as meeting hours, and hours of training. And determine the practical capacity for each group of resource Group (working hours are available).
- Calculate the unit cost for each group by dividing the total costs of energy resources the size of the operation.
- Determine the time required for each event, activity building on the causes of time using the equations of time.
- Calculate the total cost to the subject of measurement (target), by multiplying the unit cost in the time required.

The basic feature of the application of the TD-ABC is possible to estimate the time spent in the activity for each case (the possibility of taking into account a multiple causes to determine the cost of activity)independently, based on the different characteristics of that case, these properties are called cost engines (Time engines). It is used in perpetuating the time and cost of that is consumed in a particular activity, and is determined by the time required within the activity by using different cost engines.

2.2 TDABC Model and Mechanism Determining the Time Drivers (Causes)

The principles of this method is really on the transformation cost drivers to the time equation which showing how many minutes of time needto perform the activity, in other word what is the time drivers for each activity. The time equation is the model of how time drivers consumed by each activity.

The time equations considered one of the steps of the system (TD-ABC), where they are used to express the time of the completion of the activity or event using the causes of time (Kaplan and Anderson, 2004), which is about algebraic representation used to predict the time needed to deal with the activity or event according to orders specific attributes and consistent activity (Kaplan *et.al*, 2012). Below the general formula to the time equation:

$$T_{ik} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + ... + \beta_n X_n$$

Whereas:

T_{ik} The time required to complete the event *K* in activity *j*.

β_0 Fixed amount of time activity j received for the characteristics of the event *k*.

β_1 Time spent or expired for unit of reasoned first time

X_1 Reasoned the first time for the activity, X_2 reasoned the second time for the activity, X_n reasoned time n.

n Number of time causes that determine the time required for completion of activity *j*.

It has been account the cost of activity as follows:

Activity cost = the time required for the activity *x* cost per unit time

Time required for Activity = Time required for each event *k* of activity events

$$\text{Cost of event K for activity } j = C_i \times T_{jk}$$

Whereas:

T_{jk} Time spent to process (*k*) in the activity *j*.

C_i Unit of time cost of resources group (i)

It is assembled all the costs of activities to arrive at the total cost of the goal of cost (client, service, product)

$$\text{The total cost to the goal of cost} = \sum_{i=1}^{n}\sum_{j=1}^{m}\sum_{k=1}^{i} T_{kj} C_i$$

Whereas:

C_i Unit of time cost of resources group (i)

T_{jk} Time spent to process (*k*) in the activity *j*.

n The number of resource pools, *m* the number of activities, *i* the number of times consuming activity *j*.

2.3 Advantages of Applying TD-ABC

The most important advantages of TD-ABCas follows (Kaplan and Anderson, 2007; Thomson and Gurawka, 2005; Ljilja and Mila, 2010; Oleg and Czech, 2011; Siguenza *et.al*, 2013):

1. It can be estimate data of model quickly and easily.
2. It can be update the model to reflect the changes in operations and the diversity of orders and the cost of resources.
3. It canbe verify from validation of model through direct monitoring.
4. It is easy to apply the model in large-sized companies to handle millions of transactions through software and database technology.
5. The model usesthe time equations that explain the difference in orders and customer behavior without increasing the complexity of the model.
6. The model linking the cost with orders through using specific properties of the orders and processes.
7. The model excludes the need for interviews and determines the staff.
8. It can be run monthly to capture the economics of the most recent operations.
9. It is able to identify unused capacity of workers and this result could be used in the design of new recruitment system, workout, education or lead to the transfer of employee between particular departments.

3. RESEARCH METHODOLOGY

3.1 Research Objectives

This research aims to:

1. Identify the most important criticisms directed to the system of (ABC).
2. Study and analysis the system of Time–Driven Activities BasedCosts (TD-ABC), in terms of its concept, principles, dimensions, and a requirements for application.
3. Determine the extent of availability of the basic bases to apply the TD-ABC system in environment like the Iraqi Industrial Companies.

3.2 Research Importance

1. The needs of Iraqi Industrial Companies to apply the TD-ABC systems.
2. Identifying the ability of applying TD-ABC system in Iraqi Industrial Companies.

3.3 Research Problem

Although, the ABC system was attractive, but it was not generally accepted, as a result of many problems that faced the firms in application. To face the problems related to the ABC system, a new approach to allocate the activities to the resources beyond the specific problems of the system of activities costs, and takes into account the change in a time required performing the activity; this called the time- driven activities-based costing system. The importance of this system (TDABC) rises from its ability to reduce cost, through customized, and determines the time of occurrence; which it provides for the firm management the reports assist in the exploitation of resources efficiently and take appropriate decisions. Therefore, the research problem represented in the following main question:

> "Is there availability in Iraqi Industrial Companies the basic principles that necessary to apply the TD-ABC system?"

Research hypotheses

The main hypothesis is:

> "There is no availability the basic necessary principles to apply the TD-ABC system Iraqi Industrial Companies".
>
> This hypothesis contains the following sub-hypotheses:

1. There is a trendin the top management in the IIC support applying TD-ABC system.
2. Availability the scientific and professional competencies in IIC that support the applying of the TD-ABC system.
3. Availability the advanced accounting systems in IIC that support the applying of the TD-ABC system.
4. The Product diversity and complexity of the production process in IIC support the applying the TD-ABC system.
5. The application of the TD-ABC system in IIC is economically justified.

3.4 The Study Population and Sample

The study population included the members of the top management, financial and production managers in the Iraqi Industrial Companies (IIC), as it has selected a sample of them. Therefore, the researchers tries to focus when selecting a sample that its personnel who have knowledge of the activities costs system, or time-driven activities–based costing system. The field study included two phases; the first phase; a survey of IIC that apply the system (ABC) or those that have information about the system, to knowledge a stage made by industrial companies in application the system (ABC)

and information held by companies on (TDABC system). The second phase contains the main questionnaire was designed in the light of the results that reached by the survey and previous studies about the subject.

3.5 Design the Study Tool (Questionnaire)

To achieving the aim of the research and to test the validity of hypotheses, the researchers designed a questionnaire aimed at the basic measuring the availability of the elements of the application of TD-ABC in the IIC.The questionnaire has been designed based on some previous studies such as; (Kaplan and Anderson, 2004, and 2007) with some changes that are appropriate to the nature of the research. The questionnaire included firstly an introduction explained the nature of the study and definition of some of the terms contained therein, and then the questions that covered aspects of the major search commensurate with the objectives of the research and testing of hypotheses, and divided the questions into two groups. The first group included questions General (demographic) and private research sample, and the second included many variables that have been used to test hypotheses of the study, the questions arranged according to five-point Likert scale.

3.6 Stability of Study Tool

The meant of questionnaire stability is providing the same result if the re-distribution of the questionnaire more than once under the same circumstances and conditions. To investigate the stability study tool and the reliability of the data that has been obtained as well as the consistency and stability of the scale used in the collection of data (the consistency of each paragraph of the resolution with the domain you belong to this paragraph), was used Cronbach-Alpha correlation coefficient, which shows how and a positive correlation between the mouthpiece of the answers respondents measurements, the value of Cronbach-Alpha 0.88 correlation coefficient, a value which is inferred from the possibility of relying on the answers respondents and the reliability of the results of the statistical analysis.

3.7 Results of the Distribution of the Questionnaire

The questionnaire is distributed to the study sample and resulted in the distribution and sorting the results as shown in the table below.

Table 1
Distribution of the questionnaire on the study sample

Statement	*No.*	*%*
Questionnaires distributed	82	100
Questionnaires recovered	64	78
Questionnaires is un recovered	18	22
Analyzable questionnaires	64	78

Table 2
Shows the demographic characteristics of the study sample

No.	*Variable*	*No.*	*%*
1.	*Age:*		
	30-40 years	43	67
	More than 40 years	21	33
2.	*Gender:*		
	Male	52	81
	Female	12	19
3.	*Qualification:*		
	Bachelor	27	42
	Master	28	44
	Others	9	14
4.	*Scientific specialization:*		
	Accounting	52	81
	Other	12	19
5.	*Years of Experience:*		
	1-5 years	19	30
	More than 5 years	45	70

During the review of the table above cleared:

1. Most of the study sample of bachelor and master campaign, this indicates the availability of sufficient scientific qualification by the respondents, and that enables them to understand and answer the paragraphs of questionnaire accurately to meet the goal of the research, and this is what the researcher touched at the distribution of the questionnaire.
2. The results indicate to high proportion experience at an altitude of confidence and consistency in the answers.

3.8 Descriptive Data

3.8.1 Descriptive statistics for the study variables

1. Top management in IIC supports application of the TD-ABC.

Where table 3 shows the replys about this axis was positive where the relative weight of each paragraphs greater than 60%, which represents the relative weight neutral. The total relative weight of all paragraphs 66% and this indicates that the sample is sponsoring that top management in the IIC support the application the TD-ABC. The results showed that the question "supports the top management of material and moral terms, the application of modern cost systems," has received the highest relative weight between the paragraphs of this axis, reaching the relative weight of its 81%, which is almost full agreement with what Scarves Search of judgment. This

means that the top management in the IIC are seeking to introduce modern systems productivity in the application, and this result consistent with the findings of several studies such as (Kasasbeh, 2011), (Abu Rahma, 2008), (Dhergham, 2007), and (Barood, 2007). While the question which got less relative weight is "available within the company management structure helps ensure the success of the application of TD-ABC" reaching the relative weight of its 60%, which is equal to the relative weight neutral, and this indicates that the administrative structures existing in the IIC need information more about TD-ABC in order to support the implementation of the system.

Table 3
The results of descriptive statistics for paragraphs of variable support the top management in Iraqi industrial companies to apply TD-ABC

No.	*Paragraphs*	*mean*	*%*	*St.d*
1.	Top management supports applying the modern systems from both material and moral aspects.	4.08	82	0.56256
2.	The management of company has the ability to in close the activities that expired from each product.	3.39	68	0.54167
3.	The management of company has the ability to prepare and apply the equations of the time required for each activity of its activities.	3.19	64	0.48770
4.	Availability within the company the management structure helps ensure the success of the application of the TD-ABC.	2.98	60	0.46691
5.	The TD-ABC is longer from the absorbed system by the various levels of management within the company.	3.32	66	0.56256
6.	The company management has convinced and absolute belief to support the TD-ABC.	3.9	78	0.54167
	The overall average	3.5	70	0.52529

Table 4 shows the answers of a sample about paragraphs of this axis that was below average, the relative weight of most of the paragraphs was below 60%, which represents the relative weight neutral, and reached the relative weight of all paragraphs 46% and this indicates that the sample is seeing the accounting systems applied in industrial companies need to develop in order to be able to apply TD-ABC. The results showed that the text of the question that "accounting systems in the company is able to separate the costs to both direct and indirect." It has received the highest relative weight between the paragraphs of this axis where the relative weight has reached 62%, which is closer to the average. The question that got the less weight is "accounting systems in place able to identify different groups of resources (departments) that implement the cost." And "currently applied in the company's accounting systems question able to identify engines (the causes of) the time required to carry out any activity or event within the activity." This means that the accounting systems in the IIC where the ingredients necessary for the implementation of activities, the costs of directed time are not available, particularly with regard to the identification of actual energy for each group of resources, and to identify the causes of the time required to carry out any activity, and that the regulations in force need to be some modifications in order to be available to adopt the TD-ABC.

Table 4
The results of descriptive statistics of the variable paragraphs availabilityadvanced accounting system in Iraqi industrial companies that supports application of TDABC.

No.	*Paragraphs*	*mean*	*%*	*St.d*
1.	Accounting systems in the company is able to separate the costs to both direct and indirect.	3.1	62	0.88864
2.	Accounting system has the flexibility to make the application of system TDABC much easier time.	2.45	50	0.56256
3.	Accounting systems in place capable to prepare the rates of load time for the costs of activities from which to determine the rates of product cost accurately.	2.23	45	0.56256
4.	Accounting systems currently in place in the company is able to determine the actual energy for each group of resources.	2.01	42	0.48770
5.	Applicable accounting systems able to identify different groups of resources (departments) that implement the cost.	2.12	42	0.54167
6.	Accounting systems currently in place in the company is able to determine the engines (the causes of) the time required to carry out any activity or event within the activity.	2.06	41	0.46691
	The overall average	2.3	46	0.295

Table 5 shows that the answers of the sample about paragraphs of this axis was higher than the average, where the relative weight of most of the paragraphs is greater than 60%, which represents the relative weight neutral, and reached the relative weight of all paragraphs 66% and this indicates that the sample agree that the IICstudied have available the scientific and professional competencies that support the application of TD-ABC. The results showed that the question that the text of the "care of directors attracting highly qualified employees of the company" has received the highest relative weight between the paragraphs of this axis where the relative weight has reached

Table 5
The results of descriptive statistics for paragraphs of variable availabilitythe scientific and professional competencies in Iraqi industrial companies that support application of TDABC.

No.	*Paragraphs*	*mean*	*%*	*St.d*
1.	The company management concerned with attracting highly qualified employees of the company.	3.70	74	1.26920
2.	The employees of the company have available to have a high efficiency that enables them to apply TDABC system.	3.15	63	1.14770
3.	The employees of the company have available sufficient operational experience that enables them to apply the system of TDABC.	3.25	65	1.15631
4.	The employees of the company have the ability to prepare the rates of time to load the costs of activities from which to determine the exact cost of the product.	3.21	64	1.15427
5.	The company has the ability to prepare human resources for the application of the time driven activities system.	3.3	66	1.22434
6.	Availability at the company experts can be hired to figure out how to apply the system of the time driven activities.	3.4	68	1.12588
	The overall average	3.33	66	0.75967

almost 74%. The question that got less weight is more than a question which all questions relating to the application of TD-ABC system include where the relative weight of these questions ranging between 63-65%, and this suggests that workers in the Iraqi industrial companies have knowledge of TD-ABC, but at the same time they need more training to develop their expertise and skills in this area.

The importance or benefits of accounting method of activities based costing appeared when diverse products lineup offered by the firm and the volume of production dramatically and significant change which means that if you are running the production line on only one product it is not useful for the enterprise application method of accounting of activities based costing. Table 6 shows the answers to the sample about paragraphs of this axis was higher than the average, where the relative weight of most of the paragraphs is greater than 60%, which represents the relative weight neutral, and reached the relative weight of all paragraphs 79% and this indicates that the sample agree that companies industrial study the place where the products are varied and complexity of the production process and this supports significantly the costs of the application of system of TD-ABC.

The results showed that the question that the text of the "Company produces a variety of products and is not productive line run on only one product" has received the highest relative weight between the paragraphs of this axis, reaching the relative weight of its almost 91%, which is closer to the upper limit, either the question that got less weight is " The TD-ABC contributes to control on elements and allocated more accurate than traditional cost systems," where was the relative weight of this question, 64%, and in the opinion of the researcher, the reason for the support of this

Table 6
The results of descriptive statistics for paragraphs of variable that the product diversity and complexity of the production process in Iraqi industrial companies supports the application of TDABC system

No.	*Paragraphs*	*mean*	*%*	*St.d*
1.	The company produces a variety of products and product line is run on only one product.	4.54	91	0.67302
2.	The differentof products provided by the company makes application TDABC system more useful.	4.01	80	0.73923
3.	The traditional cost systems applied by the company with the diversity of products range and complexity of the production process is able to identify accurately the costs of products because of loading and allocating on the products.	3.98	80	0.77752
4.	The costs driven activities based costing contributes to control on costs elements and allocated more accurate than traditional cost systems.	3.21	64	0.71202
5.	The traditional costing system is non ability to keep up with diversified products which the company introduced.	4.00	80	0.73093
	The overall average	3.94	79	0.965

paragraph for the great support of the sample , that the sample settings lacking have sufficient knowledge of TD-ABC, but at the same time see that the application of the system will contribute to better control of cost elements on the basis that the new system is an upgraded version of activities based costing system and knowledge in most study sample, and the result above supports the final results show that has been reached in the previous paragraph, which showed that workers in the Iraqi industrial companies have knowledge of TD-ABC, but at the same time they need to develop their knowledge through training courses continuing.

Table 7 representst the answers of the sample about paragraphs of this axis was higher than the average, where the relative weight of most of the paragraphs is greater than 60%, which represents the relative weight neutral, and reached the relative weight of all paragraphs 76% and this indicates that the sample agree that the system TD-ABC is economically justified because it contributes to the reduction of production costs because uses the causes of the time instead of the causes of deals which are used in activities cost system (ABC), as well as the considered approach (TD-ABC) more accurate than the system (ABC) because the energy management is a key objective of the enterprise.

The results showed that the text of the question that "TD-ABC system seeks to remove all activities that strain the company's indirect costs and unnecessary expenses" has received the highest relative weight between the paragraphs of this axis where the relative weight has reached almost 82%. The question that got less weight it "The TD-ABC contributes to improve the competitive level of the commodity in the domestic and global markets." The reason for this in the opinion of the researcher that the sample

Table 7
The results of descriptive statistics of the paragraphs of the variable of application of the TDABC in Iraqi industrial companies economically justified

No.	*Paragraphs*	*mean*	*%*	*St.d*
1.	The benefit derived from the application of TDABC system increased the cost of practice it.	3.70	74	0.656
2.	The application of TDABC in the company contributes to the reduction of production costs.	3.99	80	0.567
3.	The TDABC System trying to remove all the activities that strain the company's indirect costs and unnecessary expenses.	4.10	82	0.567
4.	The application of TDABC system helps to take preventive measures for the production to decrease the costs of production.	3.98	80	0.654
5.	The application of TDABC increases the efficiency of the productive phase's system, leading to lower production costs.	3.83	77	0.876
6.	The TDABC contributes to improve the competitive level of the commodity in the domestic and global markets.	3.4	68	0.564
	The overall average	3.83	76	1.02762

believes that the new system supports the competitive position largely because most industrial companies in Iraq does not apply this system only has information about him, and that applied by any company will support its competitive position in the market largely because the system contributes to dispense with many of the activities is unjustified and thus reduce production costs and to be the best in the application of the system of (ABC), because he It eliminates many of the problems and obstacles that faced the application of the system (ABC).

3.9 Hypotheses Testing

To test the hypotheses of the study were tested using the One-Sample Test on the variables of the study to verify that the arithmetic mean shown by the respondents of the sample is not due to chance.

3.9.1 Testing the First hypothesis

"The top management trends in Iraqi industrial companies support the application of TDABC system."

To verify that the arithmetic mean shown by respondents to the paragraphs of the first hypothesis is not due to chance was used One Sample T-test and test table following shows the results that have been reached.

One-Sample Statistics

	N	*Mean*	*Std. Deviation*	*Std. Error Mean*
X1	62	3.3280	.52529	.06671

One-Sample Test

	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	*df*	*Sig. (2-tailed)*	*Mean Difference*	*Lower*	*Upper*
X1	4.916	63	.000	.32796	.1946	.4614

Through the above table it is clear that the value of *T* calculated greater than the value of T tabled of all this hypothesis variables a significance at the level of 0.00 and this indicates the presence of harmony in the answers individuals who believe that top management in the Iraqi industrial companies support the application of modern cost systems, including the TD-ABC, and the reason for this, according to the opinion of the researcher that top management in the Iraqi industrial companies aware of the importance of applying modern systems productivity for its role in achieving the production quality and reduce production cost by focusing on activities and their causes rather than focusing on products at the cost of products customizable, so reject the first hypothesis with the confidence level of 95%.

3.9.2 Testing the Second hypothesis

"Availability the advanced accounting systems in Iraqi industrial companiesare supports the application of the TDABC system".

To verify that the arithmetic mean shown by respondents to the paragraphs of the second hypothesis is not due to chance, was used One Sample T-test and test table following shows the results that have been reached.

One-Sample Statistics

	N	*Mean*	*Std. Deviation*	*Std. Error Mean*
X2	64	2.3490	.29505	.03688

One-Sample Statistics

	N	*Mean*	*Std. Deviation*	*Std. Error Mean*
X2	64	2.3490	.29505	.03688

	Test Value = 3					
					95% Confidence Interval of the Difference	
	T	*df*	*Sig. (2-tailed)*	*Mean Difference*	*Lower*	*Upper*
X2	17.652	63	.000	–.65104	–.7247	–.5773

Through the table above the results appeared that the presence of harmony in the answers of respondents where the value of T calculated amounted to the largest of the value of T tabled of all this hypothesis variables a significance at the level of 0.00, which indicates that the sample believes that the accounting systems currently in place in the Iraqi industrial companies need a lot of development and change to be appropriate for the application of system of TD-ABC, especially with regard to determining the actual energy for each group of resources, and to identify the causes of the time required to carry out any activity, so it rejects the second hypothesis in confidence level of 95%.

3.9.3 Testing the Third hypothesis

"The product variety and complexity of the production process in Iraqi industrial companies supports the application of TD-ABC system."

To verify that the arithmetic mean shown by respondents to the paragraphs of the third hypothesis is not due to chance was used One Sample *T*-test and test table following shows the results that have been reached.

One-Sample Statistics

	N	*Mean*	*Std. Deviation*	*Std. Error Mean*
X3	64	3.9563	.75967	.09496

One-Sample Test

	Test Value = 3					
					95% Confidence Interval of the Difference	
	T	*df*	*Sig. (2-tailed)*	*Mean Difference*	*Lower*	*Upper*
X3	10.070	63	.000	.95625	.7665	1.1460

The results above show the presence of harmony in the answers of respondents where the value of T calculated amounted to the largest of the value of T tabled of all this hypothesis variables a significance at the level of 0.00, which indicates that the sample respondents see the diversity of products and the complexity of the production process supports significantly the application of TDABC that helps in overcoming many of the problems that companies face when you load the indirect costs and allocated on products, so accept third hypothesis with confidence level of 95%.

3.9.4 Testing the Fourth hypothesis:

"Availability the scientific and professional competencies in Iraqi industrial companies support application of TD-ABC."

To verify that the arithmetic mean shown by respondents to the paragraphs of the fourth hypothesis is not due to chance was used One Sample T-test and test table following shows the results that have been reached.

One-Sample Statistics

	N	*Mean*	*Std. Deviation*	*Std. Error Mean*
X4	64	3.3516	.99430	.12429

One-Sample Test

	Test Value = 3					
					95% Confidence Interval of the Difference	
	T	*Df*	*Sig. (2-tailed)*	*Mean Difference*	*Lower*	*Upper*
X4	2.829	63	.006	.35156	.1032	.5999

Through the above table it is clear that the value of T calculated greater than the value of T tabled of all this hypothesis variables a significant at the level of 0.00 and this indicates the presence of harmony in the answers of individuals who believe that in Iraqi industrial companies where scientific and professional competencies, which supports the application of TDABC, so the hypothesis rejects the fourth and 95% confidence level.

3.9.5 Testing the Fifth hypothesis

"The application of TD-ABC in Iraqi industrial companies economically unjustified".

To verify that the arithmetic mean shown by respondents to the paragraphs of the fifth hypothesis is not due to chance was used One Sample *T*-test and test table following shows the results that have been reached.

One-Sample Statistics

	N	*Mean*	*Std. Deviation*	*Std. Error Mean*
X5	64	3.8542	1.02762	.12845

One-Sample Test

	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	*df*	*Sig. (2-tailed)*	*Mean Difference*	*Lower*	*Upper*
X5	6.650	63	.000	.85417	.5975	1.1109

The results above show the presence of harmony in the answers respondents where the value of *T* calculated amounted to the largest of the value of *T* tabled of all this hypothesis variables a significant at the level of 0.00, which indicates that the sample see the application of TDABC in Iraqi industrial companies economically justified because it helps when applied to remove all activities that strain the company's indirect costs and unnecessary expenses, so accept the fifth hypothesis and confidence level of 95%.

The Summary of the Testing hypotheses Summary

The hypothesis	*The decision*	*The result*
First	Accept the hypothesis	The top management trends in Iraqi industrial companies support the application of TDABC system.
Second	reject the hypothesis	Availability advanced accounting systems in Iraqi industrial companies support application of TDABC system.
Third	Accept the hypothesis	The product diversity and complexity of the production process in Iraqi industrial companies supports application of TDABC system.
Fourth	Accept the hypothesis	Availabilitythe scientific and professional competencies in Iraqi industrial companies that support application of TDABC system.
Fifth	Accept the hypothesis	The application of TDABC in the Iraqi industrial companies economically justified.

4. CONCLUSIONS

1. Availability in the IICof study sample most of the basic components necessary for the application of the TD-ABC system, that all the proposed real ingredients and is consistent with the study sample.
2. The arithmetic average of the extent of support top management in Iraqi industrial companies reached to implement the system of TD-ABC (3.32), this indicating that the administration calls to acceptable degree of implementation of the system.

3. The arithmetic average of the availability of advanced accounting systems in IIC support the application of TD-ABC reached 2.43, which indicates that most of the Iraqi industrial companies where systems accounting do not have enough to manage the implement of TD-ABC, and this requires some amendments to the accounting systems in place in order to keep pace with scientific developments, a way that facilitates application the TD-ABC system.
4. The product diversity and complexity of the production process in IIC supports significantly application of TD-ABC from the point of the study sample, where the answers to the sample between the high and the average of the paragraphs of this variable.
5. Availability the qualified scientific and practically staff givesthe positive indication of the presence of infrastructure for application the TD-ABC, and the answers showed the average agreement with respect to paragraphs where this variable was the arithmetic mean of the sample answers 3.3516.
6. The Application of TD-ABC in the IIC economically justified because it helps when applied to remove all activities that strain the company's indirect costs, and the results showed a tendency the paragraphs of this variable about average and the arithmetic average of 3.8542.

5. RECOMMENDATIONS

1. The top management in the IIC must be larger supportsthe TD-ABC system through access to successful experiences of Arab or international companies to achieve successes when applied system.
2. The need to hold specialized training courses about the importance of TD-ABC for employees within the company to make them aware of the new system and the mechanism of the application and benefits achieved and the benefits of the application, and to clarify the differences between him and the activities and costs of the traditional system in the allocation of indirect costs
3. Create separate sections for the implementation of TD-ABC system and strengthening qualified human resources scientifically and practically, and develop the skills and efficiency of workers on an ongoing basis through brought into the training courses
4. The universities should be having the leading role in guiding all sectors to apply TD-ABC introduce them to the new system and the mechanism of the application and the benefits derived from its application and benefits system.
5. It must be for all industrial companies in which diverse product mix gradual application of the system of TD-ABC because of its benefit to the companies,

with a focus on activities that add value, and the exclusion of activities that do not add value?

6. There is a need for more studies on the TD-ABC system and mechanism applied in various companies operating in Iraq, whether in industrial, commercial, financial, and service.

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