

# The Rule of Activating Cost Accounting Systems in Improving the Performance of Jordanian Industrial Companies

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## Abstract

One of the most important aspects of this research is the operational and administrative efficiency in designing and applying modern cost Accounting Systems , in order to keep pace with the development in manufacturing environment, the strategic , tactical , and operational decisions will be made .Mainly , this research shows the difference between traditional cost and modern cost systems , because traditional cost system does not provide administrations with qualitative and quantitative information , in order to make critical decisions . Moreover , this research was conducted to find a modern cost accounting system in applying modern production systems , in order to consider ABC System as an integrated system that enhances performance , as well as reducing expenditure .Therefore , Applying ABC System helps accountants to develop cost systems , besides achieving efficient and effective performance , and helps the planners in policy formulation , in addition to improve pricing policy and collecting the data for preparing financial statements , moreover determining the standards of supervision . This research also shows the advantages of applying ABC System as an administrative system , instead of a cost accounting system .

## 1-Introduction :

The aim of the development plans is to develop the industrial sector and the productivity in making economic surplus which maximizing the investment volume, as well as increasing the income .

However, the concern about operational and administrative efficiency now increases , due to accounting mechanism , besides the work of machineries instead of humans , as well as using modern techniques in order to improve productivity and performance and to increase competitiveness . It also leads to improve and develop Cost Accounting Systems , subsequently this will help in developing the industrial sector in both local and international level .

Furthermore , Cost Accounting Systems become ineffective concerning effectiveness procedures and styles , with the developments on manufacturing structure , as follows :

1- ATM-advance Manufacturing Technologies which contain :

A- Computer Integrated Manufacturing (CIM)

B- Financial Management Services (FMS)

Therefore , the aim of this research is to establish a new cost system , to cope with modern production systems and the product cost . However, this leads to ABC System , which become as an integrated system that helps to improve performance at companies , as well as to help the continues improvement of the operational process and Product design , also to improve the customer services .

## 2- Objectives of the Study :

The main objective of Cost Accounting Systems of industrial companies is the going concern of efficiency and effectiveness , as well as achieving the desired objectives on economic, industrial, and political aspects . Otherwise , improving the customer services that helps to understand and identify the use of industrial companies of modern standards , besides the developments in the manufacturing environment .

It is also important to identify its role in enhancing performance , as well as the use of modern techniques in production , as well as administrative systems, such as using on time system , comprehensive quality system , and flexible manufacturing system . Consequently , the most important goal is to serve executive managers in controlling and developing the operational efficiency and decision-making.

Mainly , ABC System aims to achieve an outstanding level of accuracy in cost accounting , through the analysis of activities within the company .

## 3-Problem of the Study :

Some industrial companies suffer from the inability to determine the cost of products , due to the shortage in applying and following modern accounting systems , in order to keep pace with developments in the application of these systems of manufacturing environment . Mainly , manufacturing environment is based on ABC System , as well as the failure to understand the relationship between costs and profits, specifically the role of Cost Accounting Systems in enhancing the performance , to face any incidents that occur during the manufacturing process .

Analyzing the problem of the study was based on the following questions:

1 – To which extent the Integrated Accounting System is used to improve the performance of Jordanian Public Shareholding Companies ?

2 - To Which extent Jordanian Public Shareholding Companies use modern techniques in production system , as well as applying modern management systems, such as on time system , comprehensive quality system , and flexible manufacturing system ?

3 – To which extent Jordanian Public Shareholding Companies use modern standards that is appropriate to developments that occur in the manufacturing environment , in order to evaluate the performance , in addition to its role in enhancing performance ?

#### **4-Importance of the Study:**

The importance of this study highlight the importance of applying Integrated Accounting System in industrial companies , in order to improve the performance of the industrial sector , besides its importance in ongoing improvement of operational efficiency and product design.

Considering that , Cost Accounting System undertakes many requirements , for example advanced manufacturing techniques, and non-financial standards , in order to evaluate and improve performance . In addition, it helps executive managers in developing and estimating operational efficiency , as well as decision-making.

#### **5-Hypothesis of the Study :**

##### **The Main Hypothesis :**

Jordanian Public Shareholding Companies use Integrated Accounting System to improve Performance .

##### **Sub- Hypothesis :**

1) Jordanian Public Shareholding Companies apply ABC System , which is based on scientific principles, to increase operational efficiency .

2) Jordanian Public Shareholding Companies apply modern administrative system, in addition to advanced c techniques in production system , such as a on time system and comprehensive quality system .

3) Jordanian Public Shareholding Companies use modern non-financial standards , to evaluate and improve performance .

4) Jordanian Public Shareholding Companies apply ABC System , to increase the effectiveness of companies' performance.

#### **6-Previous Studies :**

1 - ( Gharaybah and Sa'adeh Study , 2006 ) under the title " Applying Cost Accounting System at Jordanian Public Shareholding Companies "

This study examined the extent of using Cost Accounting System in Jordanian Public Shareholding Companies . It aims to evaluate the use of Cost Accounting System in these companies , and to determine the qualifications of individuals , who work in this area , as well as the cost of administrative management , in order to use it in supervision and decision-making . To conclude , this study proves that each company applies Cost Accounting System in a different way , in addition to that , there are no records of this system , which limit its use for administrative purposes .

2 - (Piggott study , 2007) under the title: "ABC in Pharmaceutical company: A treatment

"Evaluation of the effectiveness of applying ABC System on Evans British Pharmaceutical Industry"

This study aims to assess the effectiveness of applying ABC System on Evans British Pharmaceutical Industry , which was applied on 2005 , and which produces more than 350 different products .

The study concluded that the application of ABC System achieved many advantages , such as re-pricing of products . This approve that Traditional Accounting System has led to increase the cost of certain products and to reduce the cost of other products . Thus , this leads to reanalyze products , in addition to Access Product Profitability .

3 - ( Khalil study , 2009) under the title: " The development of Cost Accounting System in one of the Jordanian Public Shareholding Companies , through the application of (ABC) System "

This study aims to identify (ABC) System , as well as to identify Cost Accounting System in one of Jordanian public shareholding companies , in order to improve the performance through applying ABC System , instead of the Traditional Accounting System .

To conclude , the study results indicated a difference in production , when applying ABC System comparing with the current system . Thus , the production cost has increased for some productions and has decreased of others .

4- (Coper & Kaplan Study) under the title: "Cost - Cutting Activity"

This study aims to find out whether the applying of ABC System will lead to lower costs or not , as this study was applied on the Procurement Service at (ABB American Company Ltd) , through using descriptive analytical

approach.

## **7-Theoretical Background :**

### **8-The mechanism of ABC System and Traditional Accounting System :**

#### **8-1-Introduction :**

The Industrial Revolution and the increasing of Mega-projects , as well as the intense competition among industrial companies , motivate the industrial companies to an optimal use of factors of production , in order to control the use of factors of production , as well as to reduce manufacturing cost . Thus , the design plans of industrial companies are related to production management , for reducing manufacturing cost . Moreover, improving control methods to offer competitive prices for products, Cost Accounting System is one of the main part of Accounting Information Systems .

Mainly , Cost Accounting System provides information that help in service management planning and controlling , in addition to decision-making , which leads to increase performance , besides the rationalization of expenditure .

#### **8-2-Definition of Cost Accounting System :**

The main objective of establishing Cost Accounting System in industrial companies is to provide administrative units with periodic and non-periodical reports , which help to increase effectiveness and efficiency .

Therefore , researchers define Cost Accounting System in several ways , for example some define it as a set of actions that are related to a logical approach , which is based on the balance between the scientific bases and realistic application, in order to increase performance , besides providing **data management**, as well as the rationalization of expenditure .

Others define Cost Accounting System as a set of principles and procedures to distribute costs on cost targets , in order to determine the use of resource competition.

Some researchers define Cost Accounting System as a set of principles and interrelated steps that help in providing data , in order to determine the costs , as well as the units of production , in addition to administrative decisions .

#### **8-3-The Objectives of Cost Accounting System :**

The main objective of industrial companies is to produce and sell goods efficiently and effectively, depending on a cost system that provides data for controlling methods , pricing products , and preparation of planning.

Furthermore , there are several objectives of Cost Accounting Systems that can be classified as follows :

##### **A - Measuring cost performance:**

Mainly, measuring cost performance requires determining the cost of production units , such as wages and industrial expenses , in order to prepare financial statements, which facilitate making financial statements in long-term and short-term , in addition to performance evaluation .

##### **B – Controlling cost and performance evaluation:**

This is done by comparing the actual costs and the pre-planned costs , which helps to uncover any deviations from the planned costs, and find out the reasons for these deviations, as well as correct these deviations, in order to achieve efficiency and optimal use to factors of production , thus reducing cost and maintaining the high levels of quality.

There are many criticisms of traditional systems, which lead to apply systems that are more modern and efficient , to overcome these criticisms:

1 - The traditional systems assume that the products consume materials , depending on volume production . Thus, the distribution process has conducted through two stages. The first stage is allocating indirect costs to cost centers. The second stage is loading these costs to product units , based on loading rates due to indirect costs , assuming that the cost of direct action constitute a large part of the total cost of the product .

2 - The traditional systems do not serve the controlling process on cost efficiently and accurately , because of the delay in the time period between the requests of preparing financial reports until the end . Furthermore, this negatively affects the feedback process , as well as the benefits in the decision-making process . Mainly, the traditional systems concern about total financial results , without paying attention to the actual activities that were the cause of these results.

3 - The traditional systems ignore the complexities of productive activities and rely on simple relationships, which leads to a distortion in the cost of final products , especially in multi-products companies .

To conclude , the cost data that are resulted from these systems is temporary and inaccurate. Therefore, the traditional systems depending on direct labor hours to allocate indirect costs , which leads to incorrect administrative decisions due to pricing , besides reducing costs.

4 - The traditional systems do not allow the allocation of costs , according to a causal relationship between the costs and causes , which deal with indirect items as capital expenditures.

5 - Administration of the traditional systems focus on the allocation of indirect costs, which are mostly logistic services , such as ( supply and maintenance), engineering , and design , which constitute a large part of the companies , as well as the basic requirements of modern production process . Although , the allocation of indirect costs is not highly effective, unless the administration is aware of the basis of cost.

### **9-ABC System :**

According to the previous criticisms and automation manufacturing process , as well as the increasing of competition , in addition to the urgent need for a new system , all these factors lead to adopt the system of (COOPER & KAPLAN) , which called (ABC) System that is based on following the costs of activities and products , which depend on causes and effects of relationships . Mainly, ABC System considers that products do not consume company resource , but consume activities so activities consume the company resources , which mean activities causing costs . Therefore , the indirect distribution of the industrial costs according to activities is more objective basis than distributing among the production volume and the number of hours , or the number of production units .

Thus , ABC System seeks to achieve an outstanding level of accuracy in costing, through the analysis of activities within the company, in order to load the products due to the consumption of these activities.

### **9-1-The mechanism of ABC System :**

Each industrial company perfumes a set of consistent activities, in order to provide products to consumers, so it is necessary to manage and analyze these activities by specialists of the production process , through identifying the nature of each activity and the amount of additions to this activity adds , through a series of activities of production processes .

In order to understand the relationship between activities as a cause of costs , many bases were put to classify activities as inputs as follows :

#### **First: Classify activities according to the level of activity :**

According to this basis, activities are divided into four levels as follows :

#### **1 –The level of generating unit (product unit):**

It is defined as all activities that reflect the possibility of producing one unit of the final product, which is necessary to produce the production units .

This level consists the purchase of raw materials , prepare and supervise workers, in addition to product parts , in order to accomplish product unit.

#### **2 - The level of the order or operating orders :**

It is related to activities that are based on manufacturing process of a product not a unit , regardless the number of each unit . Thus , the cost of performance for those activities are not related to the number of product units , but are related to the number of produced packets .

This level consists of preparing production orders , processing machines , and prepares transfer products within different stages , as well as production storage.

Moreover , the cost of this activity is fixed for all units within the packets , so increasing the number of packets , will increase the number of processing machines , in addition to the number of orders for purchasing raw materials , also checking the quality of the product .

#### **3 - The level of product quality or the product that is produced:**

This level consists of the activities that are related to high specification products , depending on the quality of product units and prepare product designs , also modify specifications, as well as the activity of process engineering , in addition to improving the activity and product development.

Furthermore , this level consists of activities due to the customer level, which makes the company able to sell products to a specific customer , including the study of customer market , besides billing and after-sales services.

#### **4 - The plant level:**

This level consists of activities that are related to the performance of public services, which help to complete the production in general. These are Joint activities for all products , and include administrative activities , such as personnel management operations, data processing , accounting , and other services like , cleanliness, maintenance and custody, insurance, lighting , rents , and depreciation.

#### **Second: Classify activities due to routers cost:**

The router cost is a way to link between the cost of activity and the output of products, which is a quantitative evaluation that reflects the output of the activity.

Mainly, router cost defined as the scale of underlying cause in the formation of the cost element, a coefficient that is used to evaluate the costs and depreciating resources , for loading it on the activities of the final cost.

Thus , activities are classified according to routers cost due to the levels of activities as follows :

A. According to the level of generating unit (product unit) , the router cost of each activity is the hours of a direct action , the number of produced units , the machines working hours , or the amount of raw materials . Thus, the costs of this level include the costs of direct action and the costs of raw materials , in addition to energy costs .

B. According to the level of packets , the router cost is the hours of preparing machines for production , the hours of examination , the number of production orders , or the number of handling times. Moreover, the costs of this level include costs of office work , besides handling equipment.

C. According to the level of product quality, the router cost is consistent with the characteristics of the product , thus the cost is the engineering amendments, the number of the examination , or the number of developing and improving products The cost of this level is depending on the characteristics of the product , in addition to the engineering amendments .

D. According to the plant level , the router cost is the number of employees , or the area .  
Thus, the costs of this level include salaries , or insurance costs , and the cost of training employees.

### **9-2-How to Apply ABC System :**

The application of ABC System urges accountants to identify the activities that consume resources , and then to trace the source of costs that are associated with those resources , which are related to activities .

Thus , we get the total cost for each of those activities, in addition to allocate the costs of activity on products , by determining the router cost for each activity, through calculating the average cost of this router, and use it to load the activity cost on the final product unit.

#### **The necessary steps for applying ABC System are classified as follows :**

1-Determining the activities that consume resources , as well as the cost of these activities :

This step requires a good understanding and an accurate description of the necessary activities for production process. So that , administrations choose activities that have the greatest impact on costs , besides organizational charts and planning budgets . Also , determining the costs of these activities , through allocating the costs of resources that are consumed by the production process for a certain period , according to the router cost of activity .

Mainly , it is important to determine the activity centers , through the gathering of these activities in one center . It is also important taking into consideration the factors such as , the nature of activity within the company,

2- Determining the causative factors of costs :

This is considered as a measure of production units for each output unit of the activity, it is also used to track the costs of activities on the production units.

Mainly , three standards can be applied , to affect the causative factors of costs as follows :A. Causal relationship : In this relationship, the cost factor is selected due to its correlation with the actual consumption of activities , as a causative of the cost. This is an ideal choice, but it is difficult due to the inability to apply it in indirect industrial costs, since there is no clear causal relationship between indirect industrial costs and the subject of the cost.

B. Benefits that can be obtained : In this relationship, the cost factor is selected through allocating costs by the obtained benefits . Thus , the reducing of costs , leads to increase the probability of using the cost as a router cost .

C. Select the appropriate reasonable basis: Through distributing the costs of a particular activity , depending on the basis of the share costs of products from other activities.

D. Behavioral effects : that are arising from the choice of these routers.

### **9-3-The advantages of applying ABC System :**

ABC System was considered as an administrative system , besides being a cost-accounting system.

Therefore, this feature adds other advantages for the companies to apply ABC System , because applying traditional systems do not provide these advantages for the companies.

#### **The advantages of applying ABC System are classified as follows :**

1 - The use of ABC System provide appropriate data , which lead to accurate measurement of production units costs , in order to help administrations to make decisions in a more appropriate way , depending on the measurement.

One of The most important administrative decisions is the effective impact regarding to the pricing process , which prove that the level and the details of data system due to costs , has a strong relationship with pricing decisions .

Mainly , The adoption of (ABC) system increases profitability of the industrial companies , so there is a positive relationship between the level of accuracy of the data cost due to production units and the pricing process , in addition to maximizing profitability at the companies.

(ABC) System works to reduce costs by reducing time and effort , as well as canceling the unnecessary activities and the selection of activities with low costs.

To conclude , (ABC) System offer a different method to enhance profitability, through the management of activities , as well as the ability to control profitability and identify its source . It also provides hierarchy model to determine the cost , then to reach the profitability for each client , market , and product .

2 - ABC System increases the effectiveness through linking between three variables , the activity, the resources , and the one who is responsible for these activities . ABC System helps to control the activities , as well as to control manufacturing process , which help to avoid any deviations in ABC System , besides the use of (Cost Pools) , through the gathering of indirect costs according to activities rather than gathering indirect costs in cost centers .

To conclude , ABC System helps in preparing budgets with several alternatives , as well as developing management information systems , in order to replace the traditional cost system.

3 - The ability to change the patterns and structures of production profitability , besides the analysis and the development of consumer accounts profitability (Customer Account Profitability Analysis). (Connolly & Ashworht, 1994).

4 - The use of computers and databases , in addition to (Spread Sheet), in order to strengthen the effectiveness of administrative decisions , which leads to select and allocate resources between activities to maximize the benefit .

5 - According to the above-mentioned advantages , (ABC) System helps to understand the mechanism of companies production, as well as the manufacturing process , thereby enhancing the administration to make fundamental strategic decisions , such as re-designing the product , or using more sophisticated techniques in manufacturing processes , in order to improve performance and save time and effort .

Mainly , ABC System provides information that is important to accomplish the previous functions in an effective way , as follows :

A- Non-financial information : This is related to sources of competitive value of activities , such as quality and flexibility , in addition to the mechanism of applying these activities according to the effectiveness and workers' value addition .

Thus , these non-financial information , leads to several advantages such as , developing internal processes, and achieving customer satisfaction , besides developing the quality , also to deliver production in the correct time , in addition to identifying the defects, as well as rerunning production process .

B- Strategic cost information : This is related to long-term profitability of productions , in addition to resource management and strategic planning .

6- ABC System provides non-financial performance measures of causes cost, in order to keep pace with modern techniques of manufacturing and production processes , as well as to improve the product quality , reduce costs , and enhance the production flexibility .

#### **9-4-The limitations of applying ABC System :**

Mainly, humans design the fundamentals of ABC System like all other systems , so no matter how much effort , time , and money that are dedicated , in order to develop and improve these systems , they will not reach the optimal level .

Thus, there are several disadvantages and limitations of applying ABC System , as follows :

1-The information that is generated from (ABC) System is considered internal information that depends on estimates expected to occur within companies activities , so these information is not accurate when making strategic decisions for the future.

2- The lack of understanding the activities sequences , as well as the resulting behaviors within the companies , when applying ABC system .

3- ABC System in some ways unable to determine the levels of cost , as well as determining the activities both in upper and lower regulatory trends , which affect the costs of products .

4-Applying ABC System requires a proper identification of activities , thus it is necessary to provide an integrated set of standards for each activity (costs causes).

Despite this , there are some unsolved practical problems , for example the method of testing costs causes for activity centers , in addition to measuring the actual consumption of activities through products .

#### **10-The implications of designing integrated system to enhance performance:**

##### **10-1-Introduction :**

(ABC) System helps to provide appropriate data for a modern manufacturing environment , in addition to use advanced techniques in production process . This leads to an accurate measure of production units costs , as well as to help the administration to price products accurately .Moreover , identifying the deficiencies in traditional cost systems , such as performance evaluation and pricing conversion rates , as well as cost control .

Considering that , the process of enhancing performance improves and develops the performance of current

operations , through the optimal use of resources . Furthermore , concerning about total quality management for aspects and procedures of production process , in addition to the ability to predict deviations that may occur during the manufacturing process and avoid it , besides reducing activities that do not add value to the product .

Therefore , to achieve the maximum efficiency in operations and to make better strategic decisions , it is necessary to take into consideration the concept of performance evaluation , in order to understand the methods and means of enhancing performance .

#### **10-2-The concept of performance evaluation :**

The evolutions of accounting scientific developments increase the importance of performance evaluation as an integral part of the regulatory process. Regarding the development of regulatory accounting principles and assimilation of different variables , as well as developing administrative trends and quantitative methods , in order to upgrade control methods and increase effectiveness .

Performance evaluation process is a process of decision-making depending on supervisory information, which occurs away from careful planning and proper use of control methods .

facility towards achieving its goals .

Therefore, performance evaluation was evaluated as the comparing between the actual performance of the planned performance , according to the budget of the performance standards . In addition , the comparison process happens according to preparation of performance reports that identify the deviations , as well as to apply analytical procedures , in order to correct the actual implementation .

#### **The importance of performance evaluation:**

The importance of performance evaluation emerges from the knowledge of deviations that occur during the operational processes , in order to take measures that help to correct deficiencies and to prevent the recurrence of such deviations in the future .

utilization of available resources effectively and optimally , besides reducing the spend on economic units . Mainly , performance evaluation helps to identify the strengths and weaknesses , diagnose problems and suggest appropriate solutions , also to make the necessary recommendations in the form of performance reports .

Moreover , considering performance evaluation as a guide , in order to develop and design operations , as well as strategic decision-making .

#### **Performance evaluation : Concept and justifications :**

Modern manufacturing environment, and the use of modern techniques in production , as well as the intense competition in local , regional , and global markets affect systems efficiency to measure the cost of production units , as a result of the inaccuracy of allocating indirect industrial costs .

Therefore , the administrations have an increased need for qualitative information that are not provided by traditional cost system , related to current and future strategies , in order to face the challenges of competition , such as accurate measurement of production cost , improve the quality of production , and develop operations , in addition to customer satisfaction .

Mainly , it is important to improve the optimal allocation of financial and human resources , and how to manage production lines , besides the selection of suppliers in addition to price products accurately and efficiently , as well as the seek to maintain market share to attract new customers .

#### **11-The impact of applying (ABC) System on performance evaluation:**

The application of ABC System reflect the performance evaluation , through developing and improving the traditional concept of performance evaluation , as well as comparing the actual implementation with what is planned in advance , in order to determine deviations and causes to correct and avoid it in the future . Moreover , adopting modern and inclusive concept of performance evaluation, which develops different activities, in order to achieve the efficiency of operations performance , besides improving the performance of the companies to enhance profitability .

Mainly , the application of ABC System helps in designing the performance of operations gradually , instead of examining and reviewing performance after applying the operations . Thus , this leads to reduce the rate of loss, which is resulted from the manufacturing process , as well as to decrease supervision effort.

The function of ABC System in the processes of evaluating and enhancing performance extends to include the following elements :

- 1- Examining the relationship between the input and output data , to make sure that inputs are consistent with the required specifications , and that these inputs were obtained with the lowest prices , in order to have quality outputs.
- 2- The competency assessment of inputs to verify that these inputs used, in order to achieve the greatest amount of outputs , which means the optimal exploitation of resources through adopting efficiency standards .
- 3- Evaluating of the effectiveness , in order to verify the achievement of the administrative unit objectives , this is done through the following steps :

A - Analyzing the objectives through verifying that the administrative units are able to transfer objectives into effective actions , accurately and efficiently.

B - Dividing operations through verifying that inputs or sources , were exploited within operational procedures .

C - Screening systems to verify flexibility and effectiveness of these systems in facing constant changes.

**The application of an integrated system is based on the following key elements :**

1- The application of a modern integrated system is based on applying (ABC) System , to benefit from its advantages and roles .

2- The use of modern systems in production processes in industrial companies, such as on time system , (JIT) System , and total quality system (TQM), as well as flexible production system (FMS), besides other technologies used in the manufacturing process.

3. Providing new standards for performance measurement and modern means of performance evaluation , not only quantitative indicators and financial criteria, but also non-financial criteria.

**Access requirements for an integrated system to enhance performance :**

The application of an integrated system means interaction of other elements with (ABC) System , in order to apply the additional advantages , both quantitative and qualitative , as well as to help other aspects and production areas within the company on multiple tasks to achieve objectives efficiently .

Thus , this integrated system in addition to (ABC) System support buying and selling procedures , design products , and increase the effectiveness of control , in addition to analyzing the strengths and weaknesses of operations performance .

Moreover , ABC System is able to increase the ability to predict deviations, also to price

Furthermore, Cost Accounting System should apply certain mechanisms , in order to achieve an integrated system that has the desired benefits and advantages . These mechanisms are classified as follows :

1 – The rigid pursuit to design (ABC) System that is suitable and appropriate for companies , in accordance with scientific grounds, and apply it efficiently and effectively . Thus , costs administration is classified into two integrated types :

A- The management of operational costs.

B- The management of strategic costs.

2- Activating the role of modern technologies in production processes as a prerequisite of ABC System , to work as one unit that includes , integrated manufacturing system through computers , flexible production system , and resource planning systems , which leads to reduce the cost of measurements to evaluate performance .

3- Balance between the total cost of (ABC) System , which is the cost of measurement process , and the cost of errors , besides the level of accuracy of outputs .

**12-The Practical Background :**

**Study sample :**

**1. Gender :**

The study sample was distributed according to gender as shown in this table :

Gender	Frequency	Percentage
Males	30	69.8%
Females	13	30.2%
Sum	43	100%

It appears that 69.8% of the study sample was males and the rest was females .

**2. Age :**

(Study sample according to age)

Age	Frequency	Percentage
Under 30	10	23.3%
30 – 40	16	37.2%
40 – 50	9	20.9%
51 and more	8	18.6%
Sum	43	100%

According to this table , it appears that 37.2% of the study sample were around (30- 40) years , and 23.3% were under (30) , as well as 20.9% were around (40- 50) years .

### 3. Qualification:

(Study sample according to qualification)

Qualification	Frequency	Percentage
Diploma	2	4.7%
BA	33	76.7%
Higher studies	8	18.6%
Sum	43	100%

This table shows that the higher percentage is related to people who hold the BA degree, which is 76.7%, then the percentage of people who hold higher studies degrees, which is 18.6%, and finally the percentage of those who hold diploma degree is 4.7%.

### 4. Years of experience :

(Study sample according to experience)

Experience	Frequency	Percentage
Less than 5 years	15	34.9%
5 – 10	15	34.9%
11 – 15	6	14%
16 years and more	7	16.3%
Sum	43	100%

Through this table, it appears that 34.9% of the study sample have years of experience that are less than 5 years, as well as 14% of the study sample have years of experience that are between (11- 15) years.

### 5. Job position :

(Study sample according to position)

Position	Repetition	Percentage
Administrative	15	34.9%
Financial	15	34.9%
Productive	13	30.2%
Sum	43	100%

This table shows that 34.9% of the study sample has administrative positions, 34.9% have Financial positions, and 30.2% have productive positions.

### 13-Results of the Study :

(Mean and Standard deviation of the study sample)

Question No.	Standard deviation	Mean
1	0.88108	3.5581
2	0.50249	4.5581
3	0.42617	4.9070
4	0.59343	4.0698
5	0.37354	4.1628
6	0.46708	4.8605
7	0.94711	4.2326
8	0.44148	4.2558
9	0.37354	4.8372
10	0.73363	4.4419
11	0.73513	4.4651
12	0.57253	4.3488
13	0.25777	4.0698
14	0.53452	4.0000
15	0.73589	4.5116
16	0.51446	4.7907
17	0.37354	3.8372
18	0.35060	4.1395
19	0.41163	4.7907
20	0.53865	4.2558
21	0.69804	4.4186
22	0.75666	4.3721

According to this table , it appears that the trends of the sample are positive towards statements , because the mean is more than the accepted mean , which is (3) .

**Reliability Test :**

(Cronbach's alpha) test was used to evaluate the stability of the evaluation tool , as the value of ( $\alpha = 88.76\%$ ) , which is considered as an excellent rate , because it is higher than the accepted mean which is 60%.

**Hypothesis Testing :**

**Hypothesis (1):**

Ho: Jordanian Public Shareholding Companies do not use Integrated Accounting System , in order to improve performance .

Ha: Jordanian Public Shareholding Companies use Integrated Accounting System , in order to improve performance .

The results of hypothesis testing :

F calculated	F tabulated	SIG	The result of Null hypothesis
26,268	2,0181	0.00	Deny

One sample T – test was used, thus it appears that the value of the calculated (F) value is (26,268) , which is higher than the tabulated (F) value . Since the rule included the acceptance of null hypothesis (Ho) , if the calculated (F) value is lower than the tabulated (F) value , as well as the rejection of null value (Ho) , if the calculated (F) value is higher than the tabulated (F) value . Thus , the null value (Ho) is denied and the alternative value (Ha) is accepted , which means that Jordanian Public Shareholding Companies use Integrated Accounting System , in order to improve performance.

**Hypothesis (2) :**

Ho : Jordanian Public Shareholding Companies do not apply ABC System that is based on scientific principles, to increase operational efficiency .

Ha : Jordanian Public Shareholding Companies apply ABC System that is based on scientific principles, to increase operational efficiency .

The results of hypothesis testing :

F calculated	F tabulated	SIG	The result of null hypothesis
20,739	2,0181	0.00	Deny

One sample T – test was used, thus it appears that the value of the calculated (T) value is (20,739) , which is higher than the tabulated (T) value . Since the rule included the acceptance of null hypothesis (Ho) , if the calculated (T) value is lower than the tabulated (T) value , as well as the refusal of null value (Ho) , if the calculated (T) value is higher than the tabulated (T) value . Thus , the null value (Ho) is denied and the alternative value (Ha) is accepted , which means that Jordanian Public Shareholding Companies apply ABC System that is based on scientific principles, to increase operational efficiency .

**Hypothesis (3) :**

Ho : Jordanian Public Shareholding Companies do not use modern techniques as well as administrative systems in production process , such as timing system and comprehensive quality system .

Ha : Jordanian Public Shareholding Companies use modern techniques as well as administrative systems in production process , such as timing system and comprehensive quality system .

The results of hypothesis testing :

F calculated	F tabulated	SIG	The result of null hypothesis
23,437	2,0181	0.00	Deny

One sample T – test was, thus it appears that the value of the calculated (T) value is (23,437) , which is higher than the tabulated (T) value . Since the rule included the acceptance of null hypothesis (Ho) , if the calculated (T) value is lower than the tabulated (T) value , as well as the refusal of null value (Ho) , if the calculated (T) value is higher than the tabulated (T) value . Thus , the null value (Ho) is denied and the alternative value (Ha) is accepted , which means that Jordanian Public Shareholding Companies use modern techniques as well as administrative systems in production process , such as on time system and comprehensive quality system .

**Hypothesis (4) :**

Ho : Jordanian Public Shareholding Companies do not use advanced manufacturing techniques, and non-financial standards to evaluate and improve performance

Ha : Jordanian Public Shareholding Companies use advanced manufacturing techniques, and non-financial standards to evaluate and improve performance .

The results of hypothesis testing :

F calculated	F tabulated	SIG	The result of null hypothesis
25,966	2,0181	0.00	Deny

One sample T – test was used y, thus it appears that the value of the calculated (T) value is (25,966) , which is higher than the tabulated (T) value . Since the rule included the acceptance of null hypothesis (Ho) , if the calculated (T) value is lower than the tabulated (T) value , as well as the refusal of null value (Ho) , if the calculated (T) value is higher than the tabulated (T) value . Thus , the null value (Ho) is denied and the alternative value (Ha) is accepted , which means that Jordanian Public Shareholding Companies use advanced manufacturing techniques, and non-financial standards to evaluate and improve performance .

**Hypothesis (5) :**

Ho : Jordanian Public Shareholding Companies do not apply ABC System to increase the effectiveness of the companies performance.

Ha : Jordanian Public Shareholding Companies apply ABC System to increase the effectiveness of the companies performance.

The results of hypothesis testing :

F calculated	F tabulated	SIG	The result of null hypothesis
21,282	2,0181	0.00	Deny

One sample T – test was used, thus it appears that the value of the calculated (T) value is (21,282) , which is higher than the tabulated (T) value . Since the rule included the acceptance of null hypothesis (Ho) , if the calculated (T) value is lower than the tabulated (T) value , as well as the refusal of null value (Ho) , if the calculated (T) value is higher than the tabulated (T) value . Thus , the null value (Ho) is denied and the alternative value (Ha) is accepted , which means that Jordanian Public Shareholding Companies apply ABC System to increase the effectiveness of the companies performance.

**14-Results of the Study:**

- 1 - Jordanian Public Shareholding Companies use Integrated Accounting System , in order to improve performance .
- 2 - Jordanian Public Shareholding Companies apply ABC System that is based on scientific principles, in order to increase operational efficiency .
- 3 - Jordanian Public Shareholding Companies use modern techniques , as well as administrative systems in production process , such as on time system and comprehensive quality system .
- 4 - Jordanian Public Shareholding Companies use advanced manufacturing techniques, and non-financial standards , in order to evaluate and improve performance .
- 5 - Jordanian Public Shareholding Companies apply ABC System , in order to increase the effectiveness of the companies performance.

**15-Recommendations:**

- 1 - encourage Jordanian Public Shareholding Companies to use modern techniques as well as administrative systems in production process , such as on time system and comprehensive quality system , in addition to encourage the companies that follow these concepts .
- 2 - clarify concepts and administrative systems , in addition to advanced manufacturing system , to apply ABC System in an effective way .
- 3 - attract employees who are experienced and professional to use modern administrative methods of cost management .
- 4 - reconsider the current cost structure and the map of company performance , also the seek to divide the projects into groups of activities , in order to design and plan the procedures of manufacturing process .
- 5 - Jordanian Public Shareholding Companies should reconsider applying ABC System , not only as a cost-system , but strive to improve the operational efficiency to be an integrated administrative system .
- 6 - conduct detailed studies , in order to determine the mechanism of ABC System , as well as to improve the performance of the company .

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