



# THE IMPACT OF MANAGEMENT ACCOUNTING TOOLS ON COST REDUCTION APPLIED STUDY IN IRAQI MANUFACTURING FIRMS

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| Article history:  | Abstract:  |
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| <b>Received:</b> November 10 <sup>th</sup> 2021   | Organizations in the current period face several demands and problems, owing mostly to rapid fundamental developments in all disciplines. Because of the availability of effective technology and systems that assist officials and managers in making sound management judgments, greater experience and excellent management skills are required. Management accounting has evolved as a powerful instrument for disseminating financial data to various levels of management. Hence, management accounting employs a plethora of cutting-edge technologies and strategies to help organizations gain a competitive advantage. The goal of this research is to look at the impact of management accounting technologies on lowering costs in Iraqi industrial firms. |
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## 1. INTRODUCTION

Numerous organizations have begun to function under the framework of a new global system, the characteristics of which are represented in a range of dimensions targeted at improving the allies' competitive strengths. The present organizations experience several demands and problems, mostly because of the surrounding business environment's quick and successive fundamental changes.

Production processes and tools have evolved into the core of the manufacturing process. Despite the fact that production processes and methods have seen enormous technical improvement, traditional management accounting methods have lagged behind. According to Sabir Jaf (2015), because of the continual change in the environment of modern services, the administration is exposed to various shifting scenarios, necessitating changing policies and, as a result, changing operational plans and activities. Accounting information provided by management accounting must suit the demands of management and enable it to establish and control relevant strategies (Stefanou & Athanasaki, 2012).

Traditional management accounting approaches have received harsh criticism for their lack of accuracy, which is one of the most significant qualities of accounting information. It is required to examine the items that compose system data, such as critical systems. Structure of an organization, system objectives, and standards that aid in system evaluation, according to Mansour (2002), aid in the provision of accurate and suitable information. Traditional management accounting is useless because it is not based on good scientific and practical foundations, but continual and rapid environmental change demands the need to adapt

and create management accounting approaches. The ABC (Costing Based Activity) approach, JIT (Just in Time), and TQM (Total Quality Management) are among the most extensively used formal procedures in modern management accounting.

The fact that many Iraqi enterprises are facing greater competition suggests that a study on estimated budget and competitive advantage in the Iraqi environment is required. It is vital to maintain the sharing of information from within and outside the organization (Sabir Jaf, 2015). Cost drivers, particularly those associated with clients and suppliers must be factored into the production cost (Al-Khalil, 2012). The purpose of the research was to shed light on the strategic value of accounting methods as a source of sustained competitive advantage. It also aimed to learn about the influence of applying management accounting technologies on cost reduction in the new global order. Based on the preceding, the research challenge is expressed by the following questions:

1. To what level do current management accounting technologies assist Iraqi institutions in gaining a competitive edge through cost reduction?
2. What is the connection between management accounting and cost cutting?
3. Can the competitiveness considerations help the organization achieve its goals?
4. How prevalent is the usage of the activity-based cost accounting system and the target cost system in Iraqi firms?
5. Do Iraqi firms analyze and evaluate quality and performance using the Customer Profitability Analysis System, the Balanced Score Card, and the Sigma Six System?



## LITERATURE REVIEW

### 1.1 Management Accounting

Management accounting has grown into a collection of important technological accounting procedures for investigating and analyzing the institution's accounting data as well as the administrative data needed for accounting (Horngren, Datar, & Rajan, 2013). Financial reports are a method for disseminating accounting information to users who are interested in the institution's operations and activities (Christ & Burritt, 2013).

With the rapid evolution in the business world and the associated technical advancement in all domains, it is undeniably clear that the majority of departments of economic institutions are concerned with how to optimally utilize all available economic assets to achieve their desired goals (Othman, 2020).

### 1.2 Management Accounting Tools

Management accounting is important in supporting managers with planning, regulating, analyzing performance, and making wise choices. Its principles, perspectives, procedures, and concepts have changed to fit the needs of management and the present day. In response to the growing importance of intangible assets, many new financial management accounting solutions have arisen. To address the information requirements of an organization in the situation of financial, environmental, and technological developments, most significantly (Sabir Jaf, 2015):

- Activity-Base-Cost (ABC)
- Target costs • Customer profitability analysis
- Balanced Score Card
- Six Sigma
- Quality Measurement Systems

The faults and harsh criticism levied against old management accounting systems are one of the most crucial reasons for implementing current management accounting methods. Total Quality Management (TQM), Target Costing (TC), Activity-Based Costing System (ABC), and Just-in-Time Production System (JIT) are examples of traditional techniques (Sabir Jaf, 2015).

#### 1.2.1 Cost-of-Activity-Base (ABC)

The activity-based costing system provides management with the most up-to-date information, assisting it in understanding the competition system and the strengths and weaknesses that allow it to accomplish its work successfully. This strategy adds to increased competitiveness by lowering costs, allowing it to engage in both the domestic and foreign markets (Ashish & Rafiq, 2002). Cardiff University calculates its profits using an activity-based costing model, which focuses on the institution's market dominance, growing profits and lowering costs, which directly affects the

increase in profits. Market confidence in the organization grows as profits continue to rise, and share prices in the market rise (Othman, 2020).

As evidenced by the efficient use of available resources, sound management is the first step toward improved financial performance. Additionally, the activity-based costing method provides more precise and thorough cost information, which increases the accuracy of indicators, measures, and financial ratios (Sabir Jaf, 2015). Making appropriate administrative decisions results in the most efficient use of finite resources; poor decisions result in resource loss and mismanagement (Daroush & Harkat, 2016).

According to (Albalaki, Zinah, Raid, & Hassnain, 2019), activity-based costing is more than just a strategy or approach for allocating unnecessary costs. It is regarded as an integral part of a wider system that comprises activities, processes, outputs, and feedback. Financial data in the form of cost accounts and non-financial data are used as inputs to the Activity-Base-Cost model.

The Energy department, Environment, and Climate Change (DECC) established the Activity-Base-Cost approach to provide a more precise calculation of the cost of goods and services in the energy industry (Arnaboldi & Lapsley, 2003). The goal of Activity-Base-Cost is to ensure fairness in the allocation of indirect costs across items, as well as to provide management with information to help them make decisions and identify sources of high costs. It also helps the facility's administration acquire a clear and accurate picture of the activities that result in costs. In addition, identifying the right share from each activity separately. Various investigations have proved the effects of using an Activity-Based-Cost model, the most notable of which are as follows (Sabir Jaf, 2015):

- 1) Activity-based-Cost is one of a number of modern administrative systems aimed at improving product quality, which is critical in today's business environment, decreasing the cost, and focusing.
- 2) Activity-Based-Cost supports managers in minimizing and optimizing expenses by limiting the how often policies are coordinated and deleting non-value-adding activities based on client need.
- 3) Activity-Based-Cost increases the performance of the control function because knowing the activities connected with external costs allows to demonstrating a commitment for those expenses and applying them to more management that is proper.
- 4) Activity-Base-Cost determines the most relevant cost data for governmental decision by properly estimating indirect costs and linking them to the final product or good.



5) Activity-Base-Cost enhances the technique for assigning indirect expenses and auditing costs, resulting in a more effective process for generating flexible planning standards and budgets, as well as objective bases for evaluating performance transparency and effectiveness (Al-Dulaimi, 2005).

### **2.2.2 Target Cost (TC)**

The target costing method has recently emerged and offers distinct advantages over other costing systems. Its responsibilities extend beyond cost management to encompass the planning and organization of all project divisions and departments. From the beginning of the planning phase until the product reaches the ultimate consumer, TC is concerned with the manufacturing process (Othman, 2020).

The target cost is the costs that a project intends to incur in order to achieve acceptable operational economics and make optimal use of available resources while sustaining a suitable level of quality. Using the target cost increases a company's competitive position and assists it in meeting its goals of improving quality, cutting costs, and speeding up product delivery (Sabir Jaf, 2015). The target cost approach assists in changing and turning management's perspective into a comprehensive program to reduce costs throughout the life cycle of a product. In addition, boosting consumer satisfaction and product market expansion.

In regards to quality, employing the target cost technique improves product quality because achieving the goal cost does not need sacrificing the standards and qualities of the items that the client desires. In terms of time, employing this technique minimizes the target time from when a product is initially evaluated for manufacture to when it is first introduced to the market (Al-Khalil, 2012). The cost-cutting target cost technique is based on cost reduction. It is not necessary to come till the end of production to begin cost-cutting management initiatives when employing this method. Product design and development plans are used to plan costs during the preparation of profitability plans (Albalaki, Zinah, Raid, & Hassnain, 2019).

### **2.2.3 Just in Time (JIT)**

One of the most critical current mechanism for analyzing consumer wants and attempting to address them as rapidly as possible is Just-in-time (JIT). Firms have to address customers' requirements in a timely and high-quality manner. The JIT approach demands a consistent work environment in terms of collective management and a cooperative perspective. On the one hand, an effective system for full coordination between industrial processes and suppliers, and on the other, a precise inventory control system. The timely arrival of raw materials in the required quantities and

specifications; the JIT technique requires a stable work environment in terms of collective management and a cooperative attitude (Daroush & Harkat, 2016).

The JIT system has various objectives, including the elimination or reduction of all sorts of inventory and the development of trust and relationships with suppliers. By guaranteeing quality and reducing expenses, strategic management is reinforced. The technology enables strategic management to monitor and assess quality while also reducing expenditures. Thus it assists suppliers in setting long-term objectives and saves waste in the manufacturing process (Sabir Jaf, 2015).

### **2.2.4 Analysis of Customer Profitability**

In a particular period, customer profitability is defined as the difference between income earned and costs connected with a customer relationship. It is an accounting measure of the value derived from a company's client connection. Furthermore, customer profitability analysis is defined as the process of distributing income and expenditures to different customer categories or individual customer accounts. It is an accounting measure of the value derived from a company's client connection (Erik & Van, 2005).

Customers are attracting considerable interest these days, and various current customer-focused management systems, such as Customer Relationship Management Systems, the quality function, or the diffusion of quality, have arisen. Nevertheless, one essential factor is absent from these administrative systems: sustainability. Firms, in fact, have no notion who their successful clients are or who their unproductive ones are. The company may know who its most profitable or largest customer is, but it has no idea how profitable all of its customers are (Turney, 2006). Corporations have expanded their emphasis on supporting their consumers in order to boost customer happiness, and as a result, these firms have spent large quantities of money. For a long time, one of the characteristics of a client that has been disregarded is the cost and profitability of the customer. Using customer profitability analysis, businesses can estimate the profitability of customers as groups or as individuals (Al-Khalil, 2012).

### **2.3 The Importance of Management Accounting Practices in Optaining Competitive Advantage**

The operations of the management accounting system have the primary purpose of assisting management in the reporting, performance assessment, and choice processes. Management accounting is focused with providing information to employees to identify opportunities for improvement. It also gathers



information generated by the organization's many information sub - systems (Mayanja, 2010). Managers employ managerial accounting to collect, evaluate, and report financial and non-financial data. Financial data includes the costs of creating a product, the expenses of delivering a service, and the costs of running a firm. Managers also utilize it to develop, discuss, and execute strategies. Additionally, management accounting information is used to integrate design of the product, manufacturing, and marketing choices, as well as to analyze the company's overall performance of the company, including the performance of its employees (Stefanou & Athanasaki, 2012).

According to Drury (2015), the significance of (TC) resides in lowering product prices while increasing product quality. In way to attain high levels of performance, target costs are defined during design. To gain a competitive edge, cost-cutting and product-quality-improvement operations should be carried out at all phases of the product's life cycle.

Because it is effective (Daroush & Harkat, 2016):

- Growing consumer happiness by directing the design process toward creating perceived value for the client.
- Cutting costs by creating things that are more productive and useful than competitors' products.
- Assists in fully boosting product quality by carefully refining product design and manufacturing goods to meet the different demands of customers who desire continued growth.
- Maintaining a competitive advantage through adapting to market demands, technological improvements, and product functioning.
- Using the activity-based costing model, you can gain a competitive advantage (Albalaki, Zinah, Raid, & Hassnain, 2019).

#### **2.4 The Effects of Management Accounting Tools on Cost Reduction**

Cost accounting is the study, computation, analysis, and control of costs for various levels of economic activity, such as purchase cost, production cost, cost price, and the institution's analytical conclusion (Al-Tikriti, 2006). As a result, cost accounting is characterized as "a system governed by a set of accounting principles and resources that supports management in regulating the use of production factors available to it, as well as tracking, recording, and analyzing expenses to maximize their usage" (Othman, 2020). Cost accounting is widely recognized as a vital tool for justifying and making sound decisions (Daroush & Harkat, 2016).

Considering cost as a competitive strategy, according to Horngren (2006), entails altering manufacturing

processes to eliminate or decrease value-added activities. Lowering workers wages, building, infrastructure, and technology costs, cost of materials, and harm costs are all examples of cost-based competitiveness. In order to ensure customer happiness, businesses must develop services that are pleasing to customers (Krajewski & Ritzman, 2010). According to Schaltegger and Burritt (2010), insufficient effort is being done in Iraq to enhance sustainability using MATs. Business practices related to sustainability management accounting are areas of additional inquiry within corporate activity. Greater stakeholder influence on businesses to minimize negativity and boost the positive impact of their actions leads to a shift in sustainability.

Integrating environmental and social resources into account can boost long-term economic performance. Management accounting approaches are required for businesses to appropriately include sustainability characteristics into corporate procedures. The concept of "continuous interests," for example, under which external reporting operates, was expanded to include the organization's resources used and influenced (Hamdan, 2014).

Standard accounting methods are poor at capturing a company's achievements to long-term sustainability. Management, in particular, especially cost accounting, are regularly criticized. The significance of strategic management accounting information has lately been emphasized. Firms need to use this data to match resources efficiently to market requirements (Burritt, 2012).

Corporate accountants, according to Schaltegger and Burritt (2010), have investigated a beneficial reporting model that contains both strategic and non-financial data. There have been numerous approaches and tools developed, such as life cycle cost estimation tools. Methods of life cycle costing can assist decision-makers in the long-term product life cycle in changing their timeframes.

#### **2. Methodology of research**

One of the most important aspects of scientific study is the research approach. To achieve the current research's objectives of using a descriptive and analytical approach relevant to the nature and variables of the research, the researcher also employs a questionnaire as a research tool and layers on a sample of employees from companies listed on the stock exchange.

##### **2.1 Demographic and Sampling Research**

The research community is confined to a sample of firms listed on the Iraqi stock exchange, however according to the coronavirus pandemic; the





comprehensive inventory could not be used to collect data. The researcher was pleased with a random sample of 60 personnel from publicly traded firms representing the research community.

- For the gender variable, the male group has the highest frequency (39) percentage (65.0 percent), but the female category has the lowest frequency (21) percentage (35.0 percent).

- Forage variable, the greatest age group (41-50 years) by frequency (22) percentage (36.7 percent), but the (20-30 years) but have the lowest age group by frequency (9) percentage (36.7 percent) (15.0 percent).

- In terms of qualifications, the highest rating (Bachelor's Degree) by regularity (32) percentage (53.3 percent), but the lowest group (Doctoral Degree) by frequency (6) percentage (53.3 percent) (10.0 percent).

- In terms of the job description variable, the highest grade (Accountant) by frequency (16) percentage (26.7 percent), but the lowest group (Finance manager, Executive assistant) by frequency (10) percentage (26.7 percent) (16.7 percent).

- For the variable number of years of experience, the highest group (5-10 years) by frequency (17) percentage (28.3 percent), but the lowest group (More than 20 years) by frequency (6) percentage (28.3 percent) (10.0 percent).

### **3.2 Reliability**

After evaluating it on a reconnaissance sample outside the research sample, consists mainly of 30 teachers in Iraqi schools and outside the study sample, the stability of each dimension of the resolution and of the questionnaire as a whole was calculated using the Cronbach's Alpha stabilization coefficient (Cronbach's Alpha).

Cronbach's alpha coefficients for the research variables are significant and reasonable, reaching (0.770) for the first axis: Target Costing System and (0.770) for the second axis: Activity-Based Cost Accounting System, respectively (0.758). The third axis: Customer Profitability Analysis System (0.733), the fourth axis: Balanced Score Card (0.831), the fifth axis: Six Sigma System (0.825) and the sixth axis: Just in Time Production Line (0.825). (0.866). Cronbach's alpha has also been calculated for the influence of management accounting systems on lowering costs in Iraqi production firms in general (0.812).

Cronbach alpha ratings for the research variables are significant and reasonable, at (0.883) for the first axis: High Financial Performance (Cost Reduction) and (0.883) for the second axis: Competitive Advantage Overall (0.801). The responses of the sample members to the questionnaire were consistent, showing that they understood the questionnaire.

### **2.2 Tool Validity**

In order to determine the constructive authenticity of the questionnaire's axes, the Pearson correlation factor for each paragraph of the questionnaire and its axis has also been determined, as has the correlation factor for each axis to the total degree of the questionnaire. The correlation factors for paragraphs with the tool overall ranged from (0.541-0.833) and for axes (0.445-0.882), indicating a strong correlation coefficient for axes and phrases with the questionnaire, all of which were acceptable correlation factors and functions at the level of significance (= 0.05) for the purposes of applying the study.

### **3.4 Correction for Relative Weight and Resolution**

The rating has been used to adjust the questionnaire based on the respondents' grades (degree (1) cross strongly disagree, degree (2) cross disagrees, degree (3) cross Neutral, degree (4) cross agrees, degree (1) cross strongly agree). To explain the arithmetic averages of the study sample's estimates on each paragraph of the questionnaire and its overall scope, the following division in Table (3) was used to evaluate the mathematical averages.

### **3.5 The Research's Findings and Discussion**

#### **3.5.1 Review and analyze the first question's findings: What is the extent of application of management accounting tools in Iraq's manufacturing firms?**

The study's measurement scales were subjected to descriptive statistics. The study tool was described using means and standard deviations.

#### **- The first axis is the Target Costing System.**

According to table (4), the mathematical averages for the paragraphs of the Target Costing system varied between (3.18-3.97) and with a degree of confidence (High, Medium). The dimension of the scale as a whole (Target Costing system) was (3.73) with a standard deviation of (0.68) and a high degree. The second axis: Activity-Based Cost Accounting System.

The arithmetic averages for the Activity-Based Cost Accounting System paragraphs ranged between (3.38-4.17) and with a degree of (High, Medium). The scale as a whole (Activity-Based Cost Accounting System) had a dimension of (3.73) and a standard deviation of (0.68), and it was of a high degree.

#### **- The third axis is the Customer Profitability Analysis System.**

The arithmetic averages for the Activity-Based Cost Accounting System paragraphs ranged from (2.87-3.98) and had a degree of (High, Medium). The dimension signifies the scale as a whole (Customer Profitability



Analysis System) was (3.55) and standard deviation (0.74), and to a high degree.

**- The Balanced Score Card is the fourth axis.**

The mathematical averages for The Balanced Score Card paragraphs ranged between (3.03-3.63) and with a degree of (High, Medium). The dimension indicates that the scale as a whole (The Balanced Score Card) was (3.32) and the standard deviation (0.93) was medium.

**- Six Sigma System is the fifth axis.**

The mathematical averages for the Six Sigma System paragraphs ranged from (2.70-3.75) and had a degree of (High, Medium). The dimension indicates that the scale as a whole (Six Sigma System) was (3.36) and the standard deviation was (0.86), with a medium degree.

**- Just in Time Manufacturing System is the sixth axis.**

The arithmetic averages for the Just in Time Manufacturing System texts were between (3.25-4.12) and a degree of (High, Medium). "The just-in-time manufacturing process is implemented in the firm even with its role in increasing the company's ability to use time in the various stages of production and to ensure the continuation of production without interruption," according to paragraph 3, ranked first in mean (4.12), standard deviation (1.15), and rate of production (High). The definition highlights that the scale overall (Just in Time Manufacturing System) was (3.90) and the standard deviation (0.88) was high.

**3.5.2 View and debate the second question's results: What is the level of attainment of high profitability (cost reduction) and comparative position?**

The study's instruments were subjected to descriptive statistics. The study tool was described using means and standard deviations.

**- The first axis is characterized by high financial performance (Cost Reduction).**

The mathematical averages for the High Financial Performance (Cost Reduction) paragraphs were between (3.27-3.85) and with a degree of (High, Medium). "The adoption of management accounting tools led to a higher market dominance and profitability of the company comparison to its competitors," according to paragraph 6, scored first in mean (3.85), standard deviation (1.15), and rate (High). The definition highlights that the scale as a whole (High Financial Performance (Cost Reduction)) was (3.49) and the standard deviation (0.96) was high.

**- Competitive Advantage is the second axis.**

The arithmetic averages for the Competitive Advantage paragraphs were between (3.15-3.82) and with a degree of (High, Medium). The first paragraph, which

states: "The Company obtains raw materials at a lower cost than its competitors while ensuring the required criteria," rated best in mean (3.82), standard deviation (1.14), and rate (High). The dimension suggests that the scale as a whole (Competitive Advantage) was (3.49) and the standard deviation (0.81) was high.

**3.5.3 Review and debate the third question's findings: Is there a quantitatively significant difference between the average answer of survey participants to the degree of deployment of modern management accounting tools in Iraqi manufacturing enterprises to demographic variables?**

The independent t-test and one-way ANOVA were used to uncover statistically significant differences between the averages of the study sample members' answers and their assessments of the degree of adoption of current management accounting tools in Iraqi manufacturing enterprises in order to answer the third question. This varied according to the variables (gender, age, qualifications, job title, and years of experience). Using the T-test of independent samples, differences in attitudes and estimates of the degree of application of current management accounting techniques in Iraqi manufacturing enterprises with the gender variant were discovered.

There are statistically significant differences in the averages of study sample members' estimates of the degree of implementation of modern management accounting tools in Iraqi manufacturing firms based on gender. Where the significance was less than (0.05), the differences favored the female category with an average calculation of (3.77).

Furthermore, there are no statistically significant differences in the degree of adoption of current management accounting methods in Iraqi manufacturing enterprises between the average estimations of employees of companies listed on the stock exchange in the study sample.

**3.5.4 Review and debate the fourth question's findings: Is there a quantitatively significant variation sample response to improved financial performance (cost reduction) and competitiveness due to demographic variables?**

To address the fourth question, the independent t-test and one-way ANOVA were employed to indicate statistical differences between the study sample members' average answers and their predictions of achieving good financial performance (cost reduction) and competitive advantage. This was determined by the variables (gender, age, qualifications, job title, and a number of years of experience). Using the T-test of sample data, variations were discovered between



employees of publicly traded firms' perspectives and estimates of achieving good financial performance (cost reduction) and competitive advantage with the gender variant.

There are no statistically meaningful variations in the averages of research sample participants' assessments of achieving higher profitability (cost reduction) and competitive advantage based on gender, where the relevance was more than 0.05. (0.05).

Using the Single Contrast Analysis Test, differences were discovered between employees of publicly traded firms' perspectives and estimates of achieving good financial performance (cost reduction) and competitive advantage based on (age, qualifications, job title, number of years of experience).

There are no significantly different in the average estimations of employees of publicly traded firms in the research sample of achieving good financial performance (cost reduction) and a competitive advantage if the relevance of all these variables was more than and (0.05)

### 3. CONCLUSION

The primary goal of financial reporting is to assist internal parties by providing all that an organization's management requires to regulate management and achieve strategic goals. Economic and administrative accounting provide the essential information since it works in tandem with financial accounting, which is legally required and requires firms to use it. Unlike administrative accounting, which is optional and operates in the present by forecasting the future utilizing a variety of instruments such as discretionary budgeting, operations research, and a target cost precise timing system.

The modern corporate environment is defined by fast changes in the market competitiveness. The implementation of business intelligence tools in firms posed a significant challenge to management accounting procedures. The findings of this study show that management accounting methods have a substantial positive association and a statistical effect on creating a competitive edge. An Iraqi study discovered that management accounting methods have a substantial impact on the strength of competitive advantage characteristics in Iraqi firms. Prior studies has shown that management accounting strategies and lower costs have a good link.

In summary, the study's findings show that there are no significant differences in the average estimates of employees of publicly traded companies in the study sample. The extent to which current management accounting technologies are used in Iraqi industrial

companies, as determined by gender, age, credentials, job title, and number of years of experience.

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