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THE ROLE OF MODERN COST MANAGEMENT TECHNIQUES IN REDUCING COSTS AND ACHIEVING COMPETITIVE ADVANTAGE

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Abstract:

This paper reviews modern cost management techniques and the problems that come with applying them. It covers what cost reduction means, why it matters and the principles behind it, and it explains competitive advantage, its dimensions and the ways a firm can reach it. We also look at how modern cost management helps cut costs and build that advantage. Our main finding is that these techniques grew out of changes in the business environment: operations became more complex and digital innovation moved faster. Older methods could not keep pace with the market and with day-to-day operating problems, and this opened the way for tools such as lean accounting, Kaizen and value engineering. How well any one of them works depends on the sector, on how ready the infrastructure is, and on how far senior management backs it. In the sampled companies we found a clear gap: target costing, total quality management and time-driven activity-based costing were largely missing. We therefore recommend that these organizations change their accounting thinking at the root, moving away from traditional approaches toward modern cost management, and that these techniques be built into every stage of planning and production

Keywords: Modern cost management techniques, cost reduction, competitive advantage, target costing, activity-based costing.

INTRODUCTION

Over the last few decades the business environment has changed a great deal. Technology has moved quickly, competition has grown sharper, and customers expect more. Under these conditions traditional cost management methods lost much of their effect, and firms turned to newer techniques meant to rationalize costs, raise efficiency and add value. Approaches such as value engineering, Kaizen and machine learning are answers to these pressures, especially where decisions have to be made fast and still be reliable. The digital shift also brought business data analytics and artificial intelligence tools, and with them the management accountant's job moved from routine operational work toward analysis and strategy. Companies now try to improve and develop steadily so they can compete: they use resources better, satisfy customers more fully and keep costs down. Modern cost management aims mainly at a better cost-benefit relationship inside the organization. Its focus is the overall, forward-looking management of how much things cost, how those costs are structured and how they behave. Current methods of controlling and managing cost are built around processes, and one result is that costs can be allocated more precisely, which in turn makes pricing more accurate. Because managers of economic entities rely more and more on cost information, cost accounting systems keep evolving. This can be seen in the widening scope of management accounting, in which cost management is a central part. As cost accounting is put into practice and refined, what organizations know about their costs grows, and so does their awareness of them. For strategic initiatives, the hard part is using resources efficiently and setting up a working way to spot strategic opportunities and act on them. For this reason, many organizations today cannot survive without sound modern cost management.

CHAPTER ONE: RESEARCH METHODOLOGY

1. The Research Problem

Every economic entity spends resources each day on production, administration, sales, purchasing and similar work. How large these costs are goes a long way toward deciding how competitive and profitable its products are, and how efficient its production and economic activity is overall. Under present conditions, managing an enterprise means, to a large degree, assessing cost levels, finding where costs can be cut, and studying the markets for its goods and services so that revenue can be raised. The stability and growth of any entity in a competitive market depend first of all on having a cost management system that works. There has been little practical work on modern cost management systems, and an improved model is still needed. For these reasons the theoretical, methodological and practical bases of cost management need deeper study. On the theoretical side, costs come in many types; this variety allows them to

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be classified and organized, and that strengthens managerial accounting in the enterprise. The make-up of costs also changes over time, and measuring it accurately matters for accounting and, through accounting, for the firm's financial performance. Modern cost management therefore calls for close study and constant improvement, since efficient managerial decisions rest on an analytical view of the enterprise's costs. The core research question is: "Does cost management play a role in reducing costs and achieving a competitive advantage?"

2.Second: Research Objectives

The research aims to achieve the following:

2.1. To review the concepts of modern cost management techniques and the challenges involved in applying them.
2.2. To set out the concept of cost reduction, why it matters, and the principles it rests on.
2.3. To explain what competitive advantage is, what its dimensions are, and how a firm can reach it.
2.4. To identify how modern cost management contributes to lowering costs and gaining a competitive advantage.

3. Significance of the Research

A company that manages its costs well gains an edge over its rivals, and this matters even more now. Raw material prices keep rising, yet firms cannot keep passing these increases on to buyers through higher prices. They have to use the resources and the cost budget they have sensibly. Cost information is what managers rely on when they take major business decisions, plan, exercise control, find weaknesses and departures from the standards they set, and correct them. Whether a firm stays efficient over the long run depends to a large extent on having a sound system for managing costs. Here modern cost management has a large part to play: its techniques are used to strengthen the firm's strategic position while keeping costs in check. The point is not control alone; cost information also feeds managerial decisions. The main purpose is to help firms cut costs and gain an advantage over competitors. Newer forms of cost accounting carry much of this work, among them activity-based costing, target costing, Kaizen costing, life cycle costing and quality costing. What these share is a focus on managing cost in a way that raises cost effectiveness. At its base, cost management studies how costs arise and looks for chances to lower them at each step along the way.

4. Research Hypothesis

The research is based on the following hypotheses:

4.1. "There is a statistically significant effect of modern cost management techniques on cost reduction within the industrial companies included in the research sample."
4.2. "There is a statistically significant effect of modern cost management techniques on achieving competitive advantage for the industrial companies included in the research sample."

5. Research Methodology

To achieve the objectives of this research, a descriptive-analytical approach was employed, as follows:

5.1. The theoretical aspect: Relying on the method of description and analysis through reviewing literature and previous studies to consolidate the concepts of modern cost management techniques (such as: target costing, activity-based management, and lean production) and how they relate to competitive advantage.
5.2. Practical aspect: Collecting primary data and performing statistical analysis to test the study's hypotheses and determine the actual impact of these technologies within the environment under study.

6. Research population

The research community is the industrial sector, joint-stock industrial companies listed on the Iraq Stock Exchange, as industrial companies are the most applied and in need of modern costing techniques to face competition.

7. Research sample

The research sample is a stratified random sample, consisting of the Baghdad Packaging Materials Manufacturing Company and the Baghdad Soft Drinks Company. The research instrument—primarily a questionnaire—was administered to administrative and professional personnel directly involved with the subject of the study within the selected companies.

CHAPTER TWO: THEORETICAL FRAMEWORK FOR MODERN COST MANAGEMENT

1. The concept of modern cost management

In the literature, cost management refers to the steps managers take to keep customers satisfied, and these steps include holding costs under orderly control and bringing them down. The work done under cost management makes operations leaner and so keeps a business unit's running costs in reasonable bounds. As a result, the company uses its resources more efficiently and its value rises. Drury (2005) stresses that cutting costs must not mean failing customers' expectations; ideally, management pursues both aims at once, lower costs and more satisfied customers. Hilton et al. (2008) take a different angle and see cost management as three things at once: a philosophy, a method, and a group of techniques meant to create extra value and lower costs. As a philosophy, it is about self-improvement: the firm keeps looking for ways to make sound decisions that create value for customers and cut costs. As a method, it is practical, because every cost of making products and carrying out activities comes from some managerial decision. Modern cost

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management also includes a set of techniques that use different criteria to judge the effect of the decisions taken. Here managers try to direct resources to the most profitable lines of activity and to use them as efficiently as possible. Modern cost management also uses cost accounting systems and methods to steer present and future activity toward set objectives, and it analyzes and interprets cost data for decision-making. Brockemper suggested the name "business strategy-oriented cost management" in 1998. Earlier, "Strategic Cost Management" (SCM) had been coined in 1989, and Shank and Govindarajan used it in their 1991 study. SCM helps a cost-leadership strategy work better as a source of competitive advantage. SCM means deciding on long-run cost drivers with the firm's general strategy and value chain in view. It rests on three pillars: analysis of the value chain (VCA), of strategic positioning (SPA) and of cost drivers (CDA). Since SCM matters so much for managerial decisions and for corporate success, interest in the subject keeps growing (Biadacz, 2022: 43–44).

When an organization applies modern cost management techniques, it strengthens its strategic position and lowers its costs at the same time. Costs, and overheads in particular, are examined on a wider scale, and the accounting data obtained is more accurate, so the decisions management takes are closer to reality. Cost management means putting in place strategies that improve the company's strategic position while keeping its spending under control. Cost information is fed into the decision-making system in support of the organization's overall strategy, so the role of cost data goes beyond control and extends to managerial decisions in general. The methods used should therefore support the firm's strategic standing without losing sight of cost control. Above all, modern cost management seeks to give the firm an edge over rivals that lasts, by way of cost leadership and by making its products distinct, and it gives great weight to continuous improvement so that customers receive high-quality products. It has to be part of the whole value chain: purchasing, design, making, production, distribution and day-to-day operations. This is why most studies in the field deal with using cost management tools to raise overall organizational performance. Cost management should also enter the product development process early, so that the high cost of failure can be reduced (Sadyojathappa, 2022: 683).

Below are the definitions of cost management according to some researchers:

Cost management is	Author / Source
Target costing process and facilitating cost reduction.	R. Cooper, R. Slagmulder
The process of establishing an optimal cost level for the organization.	G. Favato, R. Mills
Develop and implement administrative procedures to structure and organize the organization’s costs in accordance with strategic and current objectives.	S. Aluko et al.
A dynamic management process for organizing the rational use of the material, human, financial and natural resources and working conditions of the organization to ensure competitive advantage and achieve the best economic result of the organization's activities.	R.L. Tishchuk
A system of administrative decisions concerning the formation and organization of costs, and the ensuring of efficient use of resources and capital across the organization’s various activities, in alignment with both strategic and current objectives.	A. Kumar
Activities involving analysis to evaluate cost composition—broken down by type of activity and product (goods, works, or services)—as well as the efficiency of resource utilization, and the identification of opportunities for rationalization to enhance impact, profitability, and competitiveness.	A. Gurg et al.

(Ordynskaya,at el,2021:500)

2. MODERN TECHNIQUES IN COST MANAGEMENT

2.1. Activity-Based Costing

New management approaches, cost-reduction strategies, and variable costing methods have led to the development of procedures designed to avoid allocating indirect fixed costs to direct labor. One such procedure is Activity-Based Costing (ABC). Sink et al. (2007) note that this method involves identifying and assigning costs to specific activities. The objective of this modern approach is to allocate indirect costs based on the factors that drive them. Bonisiakova (2010) highlights the new information provided by this method, which can be utilized to manage activities, processes, and procedures—both at the operational performance level and at the departmental level. According to Makik (2008), this method requires a substantial volume of detailed data; the amount of information needed increases in proportion

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to the number of activities being evaluated and their relationship to specific components of the final product. Furthermore, companies focus on cost-reduction opportunities even during the pre-production stages (Marcinekova et al., 2017: 291).

Because the business economy has become more global and more competitive, and because uncertainty and change are now constant, companies cannot overlook activity-based costing (Pekkola et al., 2016; Shea et al., 2018). Wouters and Stecher (2017) built a costing system that goes further than direct material costs and gives a fuller picture of profitability. By using actual production capacity in rate calculations, with a mix of machine hours and labor hours, and by drawing on real-time data from the manufacturing floor, researchers came to see the limits of Time-Driven Activity-Based Costing (TDABC) more clearly. The same work showed how much data discovery matters when costing systems are designed (Wouters & Stecher, 2017). Pekkola (2017) studied TDABC and found that it gives companies cost figures they can trust more, and that is good for profit. Newer approaches, Activity-Based Costing (ABC) among them, have let company accountants lift profits through better cost drivers and more precise measurement of cost pools, and by paying attention to the link between product costs and pricing decisions (Shea et al., 2018). In agile firms, the accounting managers may benefit from ABC depending on how complex the organization is, that is, how diverse its products are, how far resources are used in common by different value chains, and how varied its customer interactions are. These managers should weigh the costs and benefits of such a system and determine accurately how activity-based costing affects profitability (Pickering, 2018: 6-7).

2.2. Product life cycle cost

Product life cycle costing, often called simply life cycle costing, appeared as production systems were modernized under the pressure of new technology and stronger global competition. Unlike traditional costing, it takes a wide view and gathers the costs of all five stages a product passes through: conception, design, improvement, production and logistics support. It is closely tied to target costing; Kontok (2018) notes that working out the target cost is part of the first stage of total life cycle costs. Because it brings together costs from both the early and the late stages of a product's life, life cycle costing serves cost management aims and company profit by pointing more clearly to what drives costs (Knauer & Moslang, 2018:193-194)

2.3. Target Cost

Modern techniques typical of Japanese strategic management, together with new ways of measuring and reducing costs, have made it possible to manufacture high-quality products that meet what customers expect. "Target costing" helps improve the company's ongoing operations and lowers the cost of every component of a given product, beginning at the planning and design stages. It is a form of decision-oriented accounting that supports product design. Its central aim is to keep design costs at a level that meets customer needs, in price and in function, while still meeting the organization's profit targets for the product. So the approach is not about cutting costs at any price. It aims at a cost structure and a cost level that suit the product, with due regard to the performance and quality buyers want. This calls for a cost-control system that can analyze incurred costs both by the value they deliver to the customer and by cost per unit. In practice the method relies mostly on cross-functional teams that examine product design, material needs and production processes to find where savings can be made. Seen from cost management, target costing allows costs to be monitored closely and profitability to rise. In this way the approach links shareholder value management with customer value management (Biadacz, 2022: 45–46).

2.4. Kaizen cost

Kaizen costing supports cost reduction while the current product is in the manufacturing phase. In Japanese it is called "Genkakaizen". The idea of "Kaizen costing" is somewhat different from the English idea of "optimization": Kaizen means many small improvements added up over time, not improvement through innovation. Kaizen costing therefore cuts costs while existing products are being made, whereas innovative improvement, which rests on new technology, usually happens in development and design. The concept extends the idea of cost reduction and draws on Just-in-Time (JIT) production, Kaizen and cost reduction principles. It assumes that any activity can be done better the next time, so there is always room to lower costs further. Perfection can never be fully reached, yet it should always be pursued and waste removed, so that costs fall day by day and the product becomes more valuable to the customer. Kaizen cost accounting takes two forms. The first concerns a specific product: it covers efforts to improve the product's cost performance when actual cost is still well above target cost, even three months after launch, and market conditions may make this necessary. The second covers activities carried out every period to close the gap between target profit and estimated profit, so that the allowable (permissible) cost is reached. These reductions come either from value engineering (VE) or from value analysis (VA). Value engineering makes basic functional changes while a new product is being developed, which lowers cost; value analysis changes the design of an existing product, which also lowers cost (Todalbagi, 2016:221-222).

2.5. lean costs

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Agile thinking is a recent philosophy that rests on a comprehensive view. In practice it is a strategy built around the customer and around steady improvement in the way high-quality goods and services are delivered. Lean manufacturing, for its part, is a group of Japanese tools and methods now used across many industries, and it draws on the practices developed at Toyota. The method looks for waste (loss) at every stage of the value chain and then rearranges production to raise productivity substantially, with shorter delays, lower costs and smaller inventories, while output, quality and customer satisfaction go up. Its aims cover quality, cost, delivery time and the safety of workers (Azzemou, 2016). Lean manufacturing is simply defined as: "A method of achieving more with less, particularly producing high-quality products in a smaller space, storing in-process inventory, storing finished products, transporting materials, and activities that do not require tax value-added, human effort." It brings together just-in-time elements, total quality management and similar tools inside one system meant to give flexibility and keep customers highly satisfied. Taking the two definitions together, we see lean manufacturing as a way to find and remove losses along the flow of the product, and as an operations strategy driven by demand pull. It also joins craft production with mass production, using fewer resources to reach the largest scale it can. Agile accounting keeps flexibility and quality high while aiming at the results wanted. As a management accounting system, it seeks higher profit and excellence, removes waste and losses, gets products to customers on time and helps the company reach the goals it has set, so that managers can take the right administrative decisions when they are needed. Costs then go down and profits go up (Jasim & Alobaidy, 2019). It has also been defined as: "a set of management accounting tools that are adapted and organized according to a specific decision-making model, to support the decision-making process in companies that embrace the principles and values of lean manufacturing" (Teixeira & others, 2019). Broadly, agile accounting can be described as an administrative system whose aim is to remove waste and losses by making procedures faster, with fewer errors and in a form that is clear and easy to follow. Using these tools also helps drop activities that give the customer nothing of value. Accounting practices for preparing financial statements become simpler, presenting facts and figures that are easy to read. The company thus gets useful information that helps it compete better in the market and, in the end, lowers its costs. (Refif& Alloune,2024:7-8)

2.6. Quality costs

Production quality is among the hardest problems firms face. Building embedded systems that depend heavily on software is difficult because many constraints have to be met together, for example real-time performance, design requirements and functional safety. Evaluation work such as inspection and testing is needed so that the product meets its specifications, and it weighs heavily on how long production takes and what it costs. Manufacturers are therefore often caught between two aims that pull against each other: keeping cost low and raising quality of conformance, meaning how far a product or process meets its design specifications. Quality may be abstract, but it has to be expressed as concrete cost factors if it is to guide decisions from the shop floor up to top management. This is where the cost of quality (CoQ) method becomes important. It judges how good a production system is by what it spends to reach a given level of quality. Since quality costs have many parts and are fairly hard to forecast, the literature offers several ways of estimating them, which fall into five groups: (1) the prevention-appraisal-failure model (PAF); (2) Crosby's model; (3) the opportunity-cost view; (4) the process-cost view; and (5) costing based on activities (ABC). Each group sorts quality-related costs into its own categories. Juran introduced the ideas of "cost of quality" and "economics of quality" in the 1950s, and Feigenbaum later put forward the split into prevention, appraisal and failure costs that most writers now accept. The PAF approach assumes that spending more on prevention and appraisal brings failure costs down, and that spending more on prevention also brings appraisal costs down. Most information system models use the PAF categories. The Crosby approach offers another route: it treats quality as "conformance to requirements" and measures the cost of quality as the cost of conformance plus the cost of non-conformance. Its cost categories look much like those of PAF. The price of conformance is what it costs to get things right the first time, which covers actual prevention and appraisal spending (that is, the cost of good quality). (Reis at el,2025:3884-3885)

3. Limitations and challenges in applying modern methods:

Resistance to change inside an organization arises, in our view, because staff and managers find it hard to accept new methods; they fear the change itself or fear losing control. Other obstacles are the shortage of people with the analytical and technical ability to use artificial intelligence and predictive analytics tools well, and a weak digital base where advanced enterprise resource planning (ERP) systems and data analytics tools are missing. The main limits and difficulties are listed below: (Abbood & Faisal, 2025:5)

3.1. Skills gap: Applying these methods calls for abilities that many staff do not yet have, such as analyzing data, design thinking and working with artificial intelligence tools and advanced software.

3.2. Resistance inside the organization: Moving from old systems to new ones can meet opposition within the company, more so when people do not understand why the change is needed.

3.3. Technology: These methods need an advanced technological base, and small and medium-sized firms often do not have one.

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3.4. Cost of the move: Shifting to new technologies and methods needs a large investment at the start.
3.5. Measuring and reporting: Some of the newer methods give reports that managers used to traditional systems find hard to read.

4. Cost reduction (concept and definition)

Activities cannot be carried out without costs; costs are at their core. They are also a measure used to judge how activities perform and, through them, how the unit performs as a whole and whether it can stay stable and continue. A unit succeeds when it gains a competitive advantage, and that depends on how well it concentrates on cutting costs and raising profit so that it stands stronger against competitors. Drury sees cost reduction as the way an organization keeps its competitive advantage by lowering prices, while still offering a high-quality product or service and giving customers more satisfaction and value, so that sales and profits rise and shareholders gain. Achim describes it as a planned approach that relies on techniques and means more suitable and efficient than earlier standards and techniques, so that operating costs are controlled and kept below a set limit, time is not wasted and output rises. From these views we define cost reduction as the approach a unit takes to manage its costs with one of the cost management tools, so that costs fall through the best use of cost elements and the unit becomes more productive. (Al-Salmawi, 2024:37)

4.1. The importance of cost reduction

Cost reduction matters because it forms part of the entity's strategy, for the reasons summarized below: (Pierce 2014:1-2)

- When competition in the market is strong and new producers come in, the entity has to lower its prices while keeping profit at an acceptable level, and this needs suitable strategic steps, above all in a recession.
- The entity wants its profits to grow, since profit growth pays for the expansion of its infrastructure and for the yearly rise in what it pays its staff. From this we see that cutting costs helps the unit keep its activities going and sustain them, and lets it widen the range of its economic work, from using production inputs in the best way to standing up to competitors and gaining more profit and more customers. The aim is to offer more high-quality products at the lowest possible prices.

4.2. Principles of cost reduction

For a unit to lower its costs, it has to keep to these basic principles: (Moussa, 2012:64)

- Concentrate on the items that push costs up, and set them against the other items.
- Keep the product's quality intact, so that lower costs do not mean a worse product.
- Avoid making incorrect strategic decisions as a result of cost reduction.
- Avoid demoralizing employees, as this will negatively affect productivity.

5. Competitive advantage

Firms now compete hard to bring out new products and give customers a wide range of choices. As a result, customer tastes keep shifting and customers push constantly to have their needs and wishes met, so companies do all they can to keep up. Competitive advantage of this kind is the set of capabilities, traits, skills and information an organization holds that make it strong from within, because they answer what customers value and need in goods and services better than rivals can. It also refers to the way the organization puts its internal strengths to work in its activities, creating value that competitors cannot match. Some writers describe it as the organization's capacity to satisfy consumer needs, or to deliver the value consumers seek from a product or service. Taken together, these definitions tell us that competitive advantage drives the organization to concentrate on satisfying its customers. This does not come from quantity, from piling up large resources, but from the skill of using those resources with better technology, which lets the organization offer a product or service of a quality customers could not get elsewhere. An organization has this advantage when what it gives its customers is worth more than what competitors give. That value shows in the benefits customers receive: they are more satisfied, their wishes and needs are met more precisely, costs are low and quality is high (Al-Salmawi, 2024: 37-38).

5.1. Dimensions and aspects of competitive advantage

Competitive advantage, also called competitive edge, has several sides or dimensions. A company needs certain basic inputs and conditions to compete, among them: (Al-Sayyed, 2018:120; Al-Najjar, 2016:119; Alsawalhah & Almarshad, 2019:69)

- Environment: Firms that offer products that do less harm to the environment can set themselves apart from rivals and improve their odds of success.
- Flexibility: Giving customers what they ask for by delivering a range of products on time, being able to upgrade what is already offered, and simplifying the steps needed to make new products.
- Creativity: Creating different but predictable ideas, decisions, and procedures.
- Quality: Offering goods and services free of defects at fair prices. Quality reflects the overall features and traits of what the firm sells, and it helps the firm stand out among today's competitors.

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- Price: Lowering the cost of manufacturing is among the main routes to competitive advantage. It lets the firm satisfy what customers want and reach its long-run aim of charging less.
- Differentiation: Here the firm makes goods and services that are unlike others and worth more to customers. The idea is to persuade buyers to pay more by drawing attention to the special features that answer their needs. Firms try to offer something distinct, which gives them an edge and wins customers' loyalty. To do this they bring the newest technology into their products or change the way they produce to fit customer needs, and this distinctiveness brings them an advantage, rising demand and more profit.

6. The role of modern cost management techniques in reducing costs

Modern cost management has spread in organizations for many reasons, among them stronger competition from substitute products, closer cooperation among suppliers and the rise of large alliances (Dharmayasa, Sujana, & Haris, 2019). Better product quality begins with the supplier and runs through to the customer, which helps manage cost and profit over the whole product life cycle. Organizations need modern cost management above all because it lets them estimate and manage the costs they will face in future. The product also becomes worth more to the customer when the cost of parts and processes that are not needed is cut or removed, when the product is made simpler, and when it can be adjusted more easily to what customers prefer. Most of the cost savings come at the design stage; little is saved during manufacturing because the savings have already been made earlier. In addition, the firm can shape its profit at the design stage by adding some important features or dropping some that are not essential, and this makes customers readier to accept the product and pay for it. (Hong et al., 2022:4-5)

In cost management, costing goals are met through continuous improvement, which cuts activities and costs that add no value and removes waste. Gains in the manufacturing cycle and in time, and ideas for development and improvement put forward by every employee, need to be treated seriously and acted on when needed. A Kaizen costing target is fixed for the year (or the month) so that the firm keeps the competitive advantage that continuous improvement costing is meant to bring. Actual costs are then tracked over time and checked against that target. Put differently, cost performance at the close of last year is the baseline used to set this year's Kaizen target, which calls for a given percentage or amount of cost reduction. This year's actual cost performance is measured against the target, and at year end the actual cost becomes next year's baseline, against which a new and lower Kaizen target is set. In this way the effort to cut costs never stops. (Miotto at el, 2020:344-345).

7. The role of modern cost management techniques in achieving competitive advantage

Competitive cost advantage resembles Total Cost Management (TCM): both try to lower costs and reach profit targets while keeping product quality and function at least where they were, or better. Writers usually treat the two as complementary, each strengthening the other in cutting costs and both feeding the company's wider competitive strategy (Fainshmidt, Wenger, Pezeshkan, & Mallon, 2019). They are alike, yet what sets cost analysis apart from modern cost management is that it concentrates on cutting costs in the production stage of the product's life. It fits products already being made, and its aim is realistic and practical. Once a product is in operation and production, large cost-cutting changes are hard and costly to make, so modern cost management at the planning and design stage clearly gives far more options and chances to lower costs, since design work goes on while production and TCM take decisions (Eyasu & Arefayne, 2020). Total cost analysis (TCA), with its costing steps, has two aims once production starts. The first is to manage the product's overall cost so that actual cost equals target cost. The second is to go beyond the product's total cost margin, that is, to bring actual cost below it (Saeidi et al., 2019). Within the total cost margin method, cost analysis comes last; through steady improvement of the product and of production, it yields a profit margin higher than the one expected at the design stage. The saving is made during manufacturing by applying cost-cutting measures specific to each department and each accounting period. When it is applied inside the total cost margin method, cost analysis contributes to reducing the profit margin during the design, development and manufacturing stages. When the total cost margin and cost analysis are combined, the firm gets better control of what the product costs in total across its whole life and gain a competitive advantage (Khan et al., 2019, pp. 286-287).

8. Strategies for achieving competitive advantage using a cost leadership strategy

Using a cost leadership strategy to gain competitive advantage needs an approach that covers every part of the organization's operations. The strategies below show how organizations can adopt this strategy and put it into practice: (Jerab & Mabrouk, 2023:7-8)

- Supply chain efficiency: Working closely with suppliers to agree on good terms and obtain raw materials at prices that compete, and using lean production to cut waste, hold less stock and work more efficiently overall.
- Simpler operations: Reviewing how work is done on a regular basis to spot weak points and clear bottlenecks, and spending on technology and automation so that output rises and wage costs fall.
- Economies of scale: Making goods or services in large volumes so that fixed costs are spread over more units.
- Quality control and standards: Applying strict quality checks to reduce defects, rework and the costs they bring, and using standard processes and parts so that production runs more smoothly with less variation.

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- Lasting cost savings: Building cost awareness across the whole organization and giving staff the freedom to spot and suggest ways of saving money.
- Value-based price discrimination: Providing products or services with perceived value that matches customers' willingness to pay. Avoid sacrificing quality while seeking to reduce costs, while ensuring that products remain competitive in the market.
- Ongoing improvement: Making improvement a habit so that the firm stays the cost leader over time, and reviewing processes and practices regularly to find further ways to lower costs.

CHAPTER THREE: FIELD STUDY AND DATA ANALYSIS

1. Research Population & Sample

- Study population: The study was applied in the Iraqi industrial sector (Baghdad Company for Manufacturing Packaging Materials, and Baghdad Soft Drinks Company), and the community included administrative leaders, department managers, and technical and financial cadres specialized in cost accounting.
- Study sample: 42 questionnaire forms were distributed, valid for statistical analysis, and distributed to the three administrative levels (senior, middle, executive) for the year 2026.

2. Statistical analysis and hypothesis testing

The (simple) statistical regression method was used to test the direct and interactive effects between the variables at the approved significance levels (0.01 and 0.05).

2.1. Testing the first hypothesis

Hypothesis text: "There is a statistically significant impact relationship for modern cost management techniques in reducing costs in the industrial companies in the research sample."

Table No. (1) Simple regression results of the effect of modern cost management techniques (X_1) on reducing costs (X_2)

Independent variable: Modern cost management techniques → Dependent variable: Cost reduction	Statistical value
Correlation coefficient (R)	0.430
Coefficient of determination (R^2)	0.186
Calculated value of (F)	12.164
Overall morale level (Sig.)	0.001
The value of the constant	3.219 (T-value = 11.351, significance = 0.000)
Impact factor	0.246 (T-value = 3.491, significance = 0.001)

Analysis and interpretation of Table (1):

- The equation (X_2) = 3.219 + 0.246 (X_1) illustrates the fundamental role of modern technologies in rationalizing spending; as technologies were associated with a reduction in costs by 0.430.
- The value of the impact factor \beta = 0.246 proves statistically and practically that the application of modern strategic cost management methods provides decisive tools that result in the exclusion of non-value-added activities, thus reducing total costs by 0.246.
- **Decision: Acceptance of the first hypothesis**

2.2. Testing the second hypothesis

The hypothesis states: "There is a statistically significant relationship of influence between modern cost management techniques and achieving competitive advantage for the industrial companies in the research sample."

Table No. (2) Simple regression results for the impact of modern cost management techniques (X_1) on achieving competitive advantage (Y)

Independent variable: Modern cost management techniques → Dependent variable: Achieving competitive advantage	Statistical value
Correlation coefficient (R)	0.490

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Coefficient of determination (R^2)	0.240
Calculated value of (F)	16.969
Overall morale level (Sig.)	0.000
The value of the constant	1.497 (T-value = 2.380, significance = 0.027)
Impact factor	0.621 (T value = 4.124, significance = 0.000)

Analysis and interpretation of Table (2):

- The simple regression equation: (Y) = 1.497 + 0.621 (X_1) indicates a direct correlation of 0.490.
- The impact factor \beta = 0.621 means that relying on modern cost management techniques and developing them by one unit will inevitably lead to increasing and strengthening the facility's competitive advantage by 0.621. It is a very highly significant value based on the T-test and F-test.
- **Decision: Accept the second hypothesis.**

CONCLUSIONS

1. In any management system, costs bear directly on how economically efficient an organization is, on how it sets prices in production, and so on how well it competes in the market. Managers of economic units depend more and more on cost information, and this keeps cost accounting systems developing; this shows in how management accounting has grown, with cost management as one of its branches.
2. Modern cost management techniques developed as business environments changed, processes grew more complex and digital innovation sped up. Traditional methods could no longer keep up with the market and with operating problems, and newer tools appeared, Kaizen, lean accounting and value engineering among them as a result. How effective each technique is depends on the sector, on whether the infrastructure is ready, and on how much senior management supports it.
3. For many organizations today, survival depends on modern cost management. It covers the steps managers take to please customers, among them keeping costs under orderly control and lowering them. The activities carried out under modern cost management make processes leaner, which lowers costs and pushes efforts to add value and cut waste.
4. Effective cost management gives a company a competitive advantage. As competition grows, modern cost management techniques offer organizations a practical way to gain that advantage and keep it. When they improve their supply chains, simplify operations, reach economies of scale, keep quality high and price according to value, organizations can become low-cost producers and still offer customers products or services of real value, and this is how the advantage is achieved.
5. We found a clear gap in the companies studied: modern cost techniques were largely absent, whether target costing, total quality management or time-driven activity-based costing. Management still depends on older cost accounting systems that check costs only after the fact, instead of planning costs strategically and in advance.

RECOMMENDATIONS

1.The need to bring about a radical transformation in accounting thinking within the organization by moving from traditional thinking to the application of modern cost management techniques, foremost among them Target Costing and Value Engineering, as they start from the target market price to ensure the achievement of a price competitive advantage.

2.Modern cost techniques need to be managed in an organized way at every stage of planning and production. Cost management involves building a system that shapes the structure, make-up and behavior of costs steadily and with a clear direction. Such a system allows resources to be used efficiently and gives the firm a working means of finding strategic opportunities and making use of them.

3.Firms should adopt a modern cost management system that suits them, since it does much to decide how efficient they will be over the long term. They must therefore manage the resources and costs they have sensibly and well. The cost information they gather underlies major business decisions, the planning of processes, control, the detection of weak points and departures from set standards, and the steps taken to correct them.

4.Organizations need to adopt modern cost management practices, because these techniques set out the steps managers follow to keep customers satisfied, such as watching costs closely and cutting them. Activities carried

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out under cost management make processes leaner, which reduces costs and supports efforts to add value and cut waste.

5.Modern cost management is needed if a firm wants to do well in business and gain an advantage over rivals. It can be seen as an up-to-date program of cost analysis that strengthens the organization's overall position: each strategic element is defined clearly and formally, and cost information is analyzed so that, through a range of measures, the firm builds an advantage that lasts. It also gives a clearer picture of the organization's whole cost structure, which helps it win an edge in the market.

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