



Available online at <http://jeasiq.uobaghdad.edu.iq>  
DOI: <https://doi.org/10.33095/f0ncm950>

## The Role of Continuous Improvement Technology in Cost Reduction

Haneen Amjad Faiq \*

Department Accounting

College of Administration and Economics

University of Baghdad, Iraq.

[hanin.faeq2106m@coadec.uobaghdad.edu.iq](mailto:hanin.faeq2106m@coadec.uobaghdad.edu.iq)

\*Corresponding author

Miaad Hameed Ali

Department Accounting

College of Administration and Economics

University of Baghdad, Iraq.

[miaad.h@coadec.uobaghdad.edu.iq](mailto:miaad.h@coadec.uobaghdad.edu.iq)

Received: 18/10/2023 Accepted: 24/12/2023 Published Online First: 30 /8/ 2024



This work is licensed under a [Creative Commons Attribution-NonCommercial 4.0 International \(CC BY-NC 4.0\)](https://creativecommons.org/licenses/by-nc/4.0/)

### Abstract :

In recent years, many economic units have suffered losses as a result of a series of internal and external factors that led to an increase in their costs compared with expected revenues as a result of the use of high-cost materials, in addition to the environmental impacts as a result of their manufacturing waste. To address this problem, the researcher used continuous improvement technology, used the Japanese approach, and identified high-cost raw materials. In addition to being harmful to the environment (copper, tin, antimony, and arsenic), to replaced with aluminum and calcium alloys, which in turn led to reducing battery costs and protecting the environment. The researcher conducted field work for the General Company for Automotive and Equipment Manufacturing (the factory Batteries) in the Babylon 2 laboratory with the aim of determining the cost of the raw materials used in the manufacture of the battery and replacing them with other materials that are less expensive and less harmful to the environment. The researcher reached a set of results, the most important is that using continuous improvement technology leads to reducing costs and working to produce a safe product that does not danger to humans. And the environment, as well as using the Japanese approach of continuous improvement and replacing materials (copper, tin, antimony, and arsenic) with less expensive materials and less harmful to the environment, which leads to reducing environmental pollution and at the same time reducing costs.

**Paper type :** Research Paper

**Keywords:** Continuous Improvement, Cost Reduction

## **1. Introduction:**

Economic units, especially industrial ones, suffer from problems of high costs through the main components of costs, as well as indirect industrial costs. This had a detrimental effect on the high costs of their products, which led to a decline in profitability. As a result, these organizations faced difficulties in carrying out their activities in recent years in light of the presence of many foreign goods imported at low prices, which prompted consumers to buy these products, which are characterized by high quality. High compared to locally manufactured goods at an almost low price, in addition to these products taking into account marketing requirements when producing.

From this standpoint, we turned to strategic cost management techniques with a special focus on continuous improvement, which aims to reorganize various processes within economic units, which ultimately leads to improving product quality and achieving a competitive advantage. This in turn contributes to reducing costs after the associated costs have been reduced. These processes and activities.

The primary goal of this research is to help the management of economic units adopt continuous improvement techniques to reduce the cost of their products. The research seeks to help the management of economic units to use continuous improvement technology to reduce costs.

### **1.1 Literature Review :**

There are studies that linked between continuous improvement and cost reduction :

AL-Maryani (2015) proposed a philosophical study of target costing and continuous improvement techniques, with reference to aspects of integration between them and their importance in achieving cost reduction and competitive advantage for economic units. One of the most important conclusions is that target costing and continuous improvement techniques are among the most important strategic cost management techniques that affect the success of the economic unit in implementing strategies. Competitiveness, and although there are more competitive strategies to pursue economic units, the benefit of these technologies that can be felt in light of these strategies was in supporting the least expensive strategy. Does adopting targeted costing and continuous improvement techniques help in achieving less expensive strategic goals, as well as supporting the excellence strategy, as well as supporting Focus strategies.

Kovala (2019) stated that continuous improvement aims to reduce costs, which is considered the main focus for companies to introduce continuous improvement technology. As a result of the increasing pressure on wind margins, companies are trying to adopt new methods and technologies in order to develop productivity. In addition it is possible to facilitate the process of reducing costs through technology. Continuous improvement in economic units through rewards stimulates participation in continuous improvement and management commitment. It facilitates the relationship between continuous improvement and cost reduction and training for employees on continuous improvement technology, quality culture and goal setting, as it enhances the identification of continuous improvement and its relationship to cost reduction.

Abraham (2019) studied evaluating the procedures and challenges used to implement Kaizen and studying whether Kaizen is an approach to solving problems and achieving better performance important results reached by the study reformed that Kaizen principles help in solving problems by studying the places where problems are discovered. The Kaizen principle analyzes the situation. and understand it well before making decisions based on the previous experiences of the management teams. The Kaizen approach is also used to identify the root causes of problems and work to solve these problems some researchers believed that applying Kaizen has an impact on the financial performance of the total. In addition , applying Kaizen leads to increasing total productivity.

Others believe also that Kaizen increases quality. Services: although many researchers do not believe that Kaizen works to increase quality, They believe that it focuses on eliminating waste on site in addition to increasing work safety and a healthy environment.

Zameli (2019) showed that the use of continuous improvement technology, which is one of the strategic cost management techniques, indicates that improving processes and products is a must, which in turn leads to improving the quality of products and reducing waste, time and resources, as it works to simplify operations by making continuous improvements, which in turn leads to reducing costs. One of the most important results is that continuous improvement technology helps reduce costs, as it helps reduce costs during the production stage and works to improve the value of the products for both the company and customers, and thus will work to improve the company's profitability.

Gupta (2021) suggested that continuous improvement aims to eliminate waste and activities that do not add value, deliver on time, correct production defects in terms of quantity and type, standardize labor, and use appropriate equipment. One of the most important results is that continuous improvement is easily implemented in companies, as it is beneficial for employees and customers, as many companies around the world use continuous improvement in order to reduce waste, and this, in turn, will lead to reducing costs.

Mahmoud (2021) proposed to help the management of the economic unit to apply value analysis and identify jobs in order to enhance the jobs that add value and exclude jobs that do not add value in order to reduce costs. It also showed the role of some continuous improvement tools and work to help them reduce the costs of failure.

In recent years, many economic (industrial) units in Iraq have suffered major losses as a result of a series of internal and external factors and influences, including weak customer demand for their products in light of the presence of imported products with appropriate prices compared to the local product and the low quality of local products, especially after the global industrial units took into account Global marketing requirements when carrying out manufacturing operations, each of these reasons and others led to higher costs compared to revenues. Accordingly, the research problem can be formulated with the following questions:

- Does the implementation of continuous improvement techniques contribute to assisting economic units in reducing costs?
- Does the use of continuous improvement technology contribute to helping the management of the economic unit to manufacture products that take into account global marketing requirements?

The objectives of the research are the following:

- Helping the management of the economic unit to use continuous improvement technology to reduce the costs of the battery manufactured in the battery factory affiliated with the General Company for Automotive and Equipment Manufacturing by replacing some raw materials with another material, which in turn reduces costs.
- A brief presentation of the continuous improvement technique and the concept of cost reduction.

## **2. Materials and Methods :**

The research deals with a detailed presentation including the research hypotheses, research population and sample, data collection methods.

### **2.1 Research Hypotheses:**

The research is based on one main hypothesis, which is that the use of continuous improvement technology helps the management of the economic unit to reduce costs.

## **2.2 Research population and sample:**

1. Research Community: The research community consists of the General Company for Automotive and Equipment Manufacturing, specifically the battery factory affiliated with the Iraqi Ministry of Industry and Minerals.
2. Research Sample: The battery factory (Babylon 2 factory) of the General Company for Automotive and Equipment Manufacturing. Designated for battery production in 2022.

## **2.3 Data collection :**

Data will be collected based on information obtained from the battery factory through field visits and personal interviews conducted by the researcher with factory officials and engineers. Data will be obtained from the records of the Cost Division, the Technical Department, the Planning Department, and the Marketing Department.

## **2.4 Continuous Improvement:**

### **2.4.1 Origins and Concept of Continuous Improvement:**

The origins of continuous improvement can be traced back to the Japanese, where it was adopted by some economic units with the aim of achieving continuous cost reduction and enhancing ongoing improvement in the activities and processes of these economic units (Talib, 2021). Initially, the focus of improvement was on the concept of waste-free manufacturing and the removal of waste from production processes (Khalil, 2021) Economic units began to work on reducing and controlling environmental pollution, as environmental protection is one of the most critical management issues in developing countries (Abdullah et al., 2018).

Iraq, being a country that has overcome instability and is now poised for progress, should focus on creating businesses and education related to accounting. Although it poses a significant challenge to the accounting environment in Iraq (Mohammed et al., 2020). Continuous improvement is defined as a comprehensive scientific approach with its primary goal being the enhancement of the performance of economic units by eliminating waste in all its forms across various processes. This includes the removal of everything that does not add value to the economic unit while enhancing its capabilities to achieve differentiation, meet customer demands, and thereby improve the quality of products and services (Mdlool, 2022).

It is also known as a Japanese philosophy that aims to increase productivity through continuous improvement of product quality, along with efforts to reduce production costs and time, with the aim of eliminating waste and activities that hinder production. (Matope, 2022).

### **2.4.2 Continuous Improvement Approaches:**

#### **1) Japanese Approach:**

The Japanese approach, which is exemplified by the Kaizen method, views the improvement process as something that occurs gradually, in carefully planned, small, consistent, and well-executed steps (Abu Nasr, 2015). The Japanese approach calls for continuous improvement in all aspects of work, including every employee, through small steps. This collective effort enhances the overall efficiency and effectiveness of processes and allows for improvements to be made frequently at a low cost or even cost-free, without the need for expensive advanced technology or equipment. Kaizen encompasses the application of complex processes or their division into economic units, and it plays a role in educating employees on how to use limited resources to produce goods more efficiently. Kaizen encourages the involvement of all staff in continuous training and ongoing education for the purpose of continuous improvement in the economic unit, cost reduction, enhanced labor efficiency, and efficient utilization of equipment and materials. The continuous improvement system is closely linked to employee quality, technology, processes, and the culture of the economic unit (Abdulmout, 2018).

## **2) American Approach:**

The American approach focuses on innovation and introducing new changes and improvements by relying on advanced technological methods and investing substantial resources to achieve a high level of quality. This approach emphasizes making radical improvements by integrating new technologies and completely redesigning products (Abu Nasr, 2015). The American approach has ensured a significant overhaul of the current situation through substantial investments in new technologies and equipment or complete product redesign (Al-Aboudi, 2018).

## **2.5 Cost Reduction:**

### **2.5.1 Concept of Cost Reduction:**

Costs are an essential element of any responsibility center and one of the most important tools of responsibility accounting. Responsibility accounting is an element of modern cost management used to achieve management objectives related to planning, organization, production and control. It is also used to enhance the competitiveness of economic units (Aljanabi and Nouri, 2020). Cost reduction encompasses carefully planned measures capable of identifying and eliminating unnecessary costs to enhance an entity's profitability. Essentially, the primary function of cost reduction lies in defining and interpreting cost-revenue relationships, and executing strategies that assist economic units in achieving efficiency through optimal resource utilization (Bello, 2020). Furthermore, cost reduction is the simplest means of increasing profits in the long run, as the identification of cost-reduction areas falls entirely within the control of the economic unit. When executed correctly, this approach can be a key driver for long-term growth (Saroor and Abdul Reda, 2017). In the contemporary environment, traditional cost estimation techniques do not provide sufficient information and indicators for management to make decisions related to the company's activities, as the cost structure was affected by the modern manufacturing environment, which led to an increase in indirect industrial costs. This requires the application of advanced technology that is characterized by ease of application, speed, estimation, and rapid updating according to operations. (Rahman et al, 2019).

### **2.5.2 The Role of Continuous Improvement in Cost Reduction:**

Given the rapidly changing business environment and technological advancements, continuous improvement techniques are considered one of the strategic cost management approaches and hold a prominent position in the business environment. Thus, the need for continuous improvement of processes and products has become unavoidable, as continuous improvement seeks to streamline processes to reduce costs and enhance quality while also decreasing waste, time, and resources (AL-Zameli, 2019). This is achieved by making small improvements to the product directly linked to the research and development stages, focusing on the efforts of the business team and employees. Implementing a continuous improvement process at all levels of the company, from senior management to the lowest level of employees, helps improve and develop product quality, which in turn helps reduce ongoing costs. At the same time, continuous improvement techniques serve two primary functions: maintaining and improving quality (Kolodziejczak et al., 2019).

The focus lies in cost reduction through continuous improvement, which involves additional enhancements to current production processes or product design processes. These improvements take the form of any development aimed at enhancing machine performance to minimize losses and increase employee training. Therefore, the emphasis is placed on the concept of continuous improvement, which is oriented toward the process, not just the product. The primary goal of the continuous improvement approach is to refine quality, reduce time, and minimize costs, which ultimately leads to increased customer satisfaction. Through continuous improvement, waste or inefficiencies in processes can be eliminated as much as possible, thereby improving process time, cost, and quality (Arab, 2018).

## 2.6 Data Analysis:

### 2.6.1 Testing Research Hypothesis :

The researchers directed their attention to the General Company for Automotive and Equipment Manufacturing and selected the battery factory for the practical application. The following table represents the total cost of raw materials used in battery manufacturing in the Babil 2 factory for the year 2022.

**Table 1:** Total Cost of Raw Materials for Battery Manufacturing at the Babil 2 Factory in 2022.

Sequence	The Material	Quantity	Cost in Dinars
1	Pure Lead	6.16	2594
2	Raw Lead	5.88	9.38
3	Vandyke Brown	0.010	3264
4	Carbon Black	0.005	133
5	Barium Sulphate	0.010	1066
6	Citric Acid	0.010	998
7	Fiber	0.002	488
8	Water	0.460	93
9	Sulfuric Acid	0.628	377
10	C.M.C	0.080	1010
11	Antimony	0.151	5107
12	Arsenic Alloy	0.063	2431
13	Tin	0.070	465
14	Copper	0.040	931
15	Sulfur	0.012	24
16	Polypropylene	0.924	1924
17	P.V.C	0.567	1012
18	Trade Mark	1	70
19	Warning Sign	1	11
20	Total Summation		22957

Source: Prepared by the researchers based on the records of the Costs Division for the year 2022

The researchers chose to apply the Japanese approach to continuous improvement, which involves using calcium instead of materials (copper, tin, antimony, and arsenic). Calcium is chosen as a cost-effective alternative to these above mentioned materials. It is worth noting that these four materials are used in the two stages (clamps and electrodes), and the following table shows the amount of materials used and their costs for each stage in these stages:

**Table 2:** Details of the distribution of the quantity of the four elements.

Details	Clamps Level	Electrode Level	Total	
			Quantity	Cost
Antimony	0.150547	0.000453	0.151	5107
Arsenic	0.0629685	0.0000315	0.063	2431
Copper	0.039996	0.000004	0.040	931
Tin	0.06965	0.00035	0.070	465

Source: Prepared by the researchers based on the records of the Costs Division for the year 2022

To address environmental pollution issues that directly affect the workers, the laboratory, and the users of these batteries, the researchers suggested replacing the four materials (antimony, arsenic, copper, and tin) with a substance known as calcium-aluminum alloy.

After consulting experts and technicians in Babil 2 Laboratory, along with the laboratory director, it became evident that replacing these materials with calcium-aluminum alloy would cost 8.14 dinars. The quantity required for use is 0.0011 ( $0.0011 \times 7400$ ). Furthermore, this replacement offers several benefits, notably reduced cost, lower environmental risks, improved battery efficiency, and longer battery lifespan. The approach effectively reduces costs and environmental hazards while enhancing battery quality. Among the advantages are:

1. Reduced battery temperature.
2. A substantial reduction in self-discharge during rest, by no less than 20%.
3. Significantly lower electrical water decomposition temperature for minimizing liquid evaporation during charging.
4. A substantial reduction in the internal wear rate of electrical electrodes and clamps, making them more efficient and longer-lasting compared to existing products.
5. Reduced handling of hazardous materials, making the batteries environmentally friendly and extremely safe for workers compared to using antimony and arsenic alloys.
6. Significant improvements in battery efficiency and quality are achieved by producing the actual capacity of the amperage, which exhibits appropriate efficiency during use.
7. Extension of battery service life through improved resistance to overcharging.
8. Enhancement of energy storage efficiency even with a calcium concentration of 0.1%.
9. Making the positive and negative plates more resistant to mechanical stress.

**Table 3:** Calculating the need for clamps from the four materials

The Material	(1) Quantity	(2) Cost	(3) $2 \div 1$	(4) Quantity Requirement for the Battery	(5) $4 \times 3$
Antimony	0.151	5107	33821	0.150547	5092
Arsenic	0.063	2431	38587	0.0629685	2430
Copper	0.040	931	23275	0.039996	931
Tin	0.070	465	6643	0.06965	463
Total					8916

Source: Prepared by the researchers based on the records of the Costs Division for the year 2022

**Table 4:** The amount of reduction achieved in production costs for the Babil plant for the year 2022, (amounts in dinars)

The materials used before improvement and their costs		The alternative materials and their costs		The difference
The Material	Cost	The Material	Cost	
Antimony	5092			
Arsenic	2430			
Copper	931			
Tin	463			
		Calcium- Aluminum	8.14	
Total of Costs	8916		8.14	8907.86

Source: Prepared by the researchers based on the records of the Costs Division for the year 2022

Based on the above table, it is evident that the use of the Calcium-Aluminum alloy, following discussions and consultations with experts and technicians at the laboratory, would lead to a cost reduction of (8907.86) dinars per battery. Additionally, it would contribute to reducing the environmental impacts, which the researchers aim to achieve in order to minimize environmental effects and lower costs within this proposal.

Through the results obtained by the researchers, it is apparent that the use of the continuous improvement technique, following the Japanese approach, by replacing the four materials in the grids with the Calcium-Aluminum alloy, will lead to a cost reduction of (8907.86) dinars for each battery. After inquiring about the actual production for the year 2022, it was revealed that the actual production is 3244 batteries. This means that the total annual reduction amounts to (28,897,098) dinars ( $3244 \times 8907.86$ ).

Furthermore, the utilization of continuous improvement techniques will also lead to a reduction in harm and environmental impacts, which, in turn, will preserve the health of the workers in the factory and protect consumers from hazards and environmental pollutants. Should continuous improvement techniques be implemented, the harmful effects on health and the environment will be mitigated.

### **3 . Discussion of results :**

The research focused on calculating the cost of raw materials used in battery manufacturing at the General Company for Automobiles and Equipment, Battery Factory in Babel 2. The researchers employed the continuous improvement technique following the Japanese approach, where four materials in the battery manufacturing process in the grid stage (copper, lead, antimony, and arsenic) were replaced with a Calcium-Aluminum alloy. This substitution led to cost reduction in the raw materials component, lowering the battery's temperature, increasing its resistance, capacity, and extending its productive lifespan. Moreover, it reduced the inter-material harm resulting from the previous four materials in the grid, thus mitigating or minimizing pollution.

### **4. Conclusions:**

The most important conclusions reached include:

- The use of the continuous improvement technique results in cost reduction and the production of a safer product that poses no threat to humans or the environment.
- Implementing the Japanese approach of continuous improvement and replacing hazardous materials in the grid (copper, lead, antimony, and arsenic) works to reduce environmental harm, combat or minimize environmental pollution, consequently reducing costs.
- The utilization of the continuous improvement technique led to a reduction in the cost of raw materials used in battery manufacturing by an amount equivalent to (8907.86) dinars per battery, annually, which totals (28,897,098) dinars, given that the annual battery production for 2022 is (3244) batteries. This reduction is associated with the cost component, which, when reduced, contributes to an overall cost reduction for the battery.
- Employing the continuous improvement technique preserves the health of workers in the factory and protects consumers from hazards and environmental pollutants that occurred as a result of the presence of the previous four materials in the grid, thereby mitigating the harmful effects on health and the environment.

### **Authors Declaration:**

Conflicts of Interest: None

-We Hereby Confirm That All The Figures and Tables In The Manuscript Are Mine and Ours. Besides, The Figures and Images, Which are Not Mine, Have Been Permitted Republication and Attached to The Manuscript.

- Ethical Clearance: The Research Was Approved By The Local Ethical Committee in The University.



**References:**

1. Abdullah, H. S . and Bediwi, A. K. and Flayyih , H. H. (2018). Environmental quality costs and their role in strategic decision making : evidence from Iraq , Faculty of Business Economics and Entrepreneurship International Review No 3-4, PP 48- 57.
2. Abdulmouti, H (2018) Benefits of kaizen to business Excellence: Evidence from a case Study, Industrial Engineering & Management, Vol 7 ,No 2 ,pp 1-15.
3. ABRAHAM, S.(2019) "KAIZEN IMPLEMENTATION AND PRACTICE AT NIFAS SILK TVET COLLEGE" (Doctoral dissertation, St. Mary's University).
4. Abu El-Nasr, M. M (2015) "Total Quality Management: Kaizen Strategy in Organizational Development," 1st edition. Arab Group for Training and Publishing, Cairo, Egypt.
5. Al-Aboudi , Z.Y.K (2018) "A Proposed Model for Developing the Budgeting System in the Light of Continuous Improvement Approach and Its Impact on the Performance of Economic Units." Master's thesis, Wasit University, College of Management and Economics.
6. Aljanabi, A . K. and Nouri , M. A. (2020), Responsible Accounting and Its Role in Achieving Competitive Advantage , International Journal of Innovation, Creativity and Change Vol. 10, No . 11, PP 577 – 611.
7. AL-Maryani, M. A. H. (2015) The strategic impact of integration between target costing and continuous improvements techniques in achieving cost reductions and competitive advantage an analytical study, Merit Research journal of accounting, Vol3,no4.
8. Al-zameli , A.A.H and Hassoon,F.S(2019), Continuous Improvement Technique and its Role in Costs Reduction, opcion journal, Vol 35 ,No 19 ,pp 1452-1481.
9. Arab, Z. M (2018) "Application of Continuous Improvement as a Cost Reduction Tool to Support Competitive Advantage in Printing in Kurdistan Region of Iraq." Published research at the College of Commerce, Mansoura University, Vol 9, Issue 1.
10. Bello, D (2020),Cost Reduction and Sustainable Business Practices; a Conceptual Approach, journal of economics and administrative sciences (jeas), Vol 26 , No 118 ,pp 78-87 .
11. Gupta, A.k (2021) Kaizen Costing: A System of Cost Reduction through Continuous Improvement international journal of research in engineering, science and management, Vol 4 , Issue 3,pp 79-81.
12. Khalil, A.B.A and Hamid,S.A(2021), the Role of Continuous Improvement Strategy (Kaizen) in Organizational Innovation: An Analytical Research in the General Company of Electrical and Electronic Industries/the Ministry of Industry and Minerals, journal of economics and administrative sciences (jeas), Vol 27 ,No 129 ,pp 41-54 .
13. Kolodziejczak,,M and Edemaller,A, (2019),"Continuos Improvement in Education: Adaptation of kaizen philosophy on the Example of the student project AGH Leanline", International journal of Business and Economic A-airs (IJBEA) Vol 4 , No 4 ,pp: 149-162 .
14. Koval,O and Chromjakova,F (2019),Continuous Improvement and Organizational Practices in Service Firms: Exploring Impact on Cost Reduction, Serbian journal of management Vol(14),No (1),pp(177-191).
15. Mohammed , B. H . and Rasheed , H.S. and Al-Waeli , A.J. (2020), The Impact of Mandatory adoption on Accounting quality : Iraqi private banks, International Journal of Innovation, creativity and change , Vol. 13, No .5, PP 87 - 103.
16. Mahmoud, M. S (2021) "Nur Ainai: Analysis of the Old and Continuous Improvement in Reducing Product Failure Costs - Applied in Iraqi Economic Units." Master's thesis, University of Baghdad, College of Management and Economics.
17. Matope, S and (2022) Continuous Improvement for Cost Savings in the Automotive Industry , sustainability journal , No 14.
18. Mdlool,A.S and Mezher,A. A , (2022) The Effect of Continuous Improvement in the Quality of Cybersecurity by Mediating Customer Orientation, Al-Qadisiyah journal for Administrative and Economic Sciences, Vol 24 ,issue 3.

19. Rahman , M . A . and Ali , M. H, and Hussein , R. H.A. (2019), The integration time-driven Activity-Based Costing (TDABC) and events approach: Their role in decision- making and their effect on tourism, African Journal of Hospitality. Tourism and Leisure. Vol. 8, No. 81.
20. Sorour, M. J. and Abdul Reda, D. A. (2017), Integration between disjointed analysis technique and total quality management to reduce costs and improve product quality, Journal of Economic and Administrative Sciences, Vol. 24, No. 107, PP 649 - 669.
21. Talib, A. S, (2021) Impact Kaizen Budget to Reducing Costs and Continuous Improvement the Operations: Study in General Company for Light Industries , journal of economics and administrative sciences(jeas), Vol 27 ,No 128 ,pp 255-271 .

## دور تقنية التحسين المستمر في تخفيض التكاليف

ميعاد حميد علي

جامعة بغداد, كلية الادارة والاقتصاد, قسم المحاسبة  
[miaad.h@coadec.uobaghdad.edu.iq](mailto:miaad.h@coadec.uobaghdad.edu.iq)

حنين امجد فائق

جامعة بغداد, كلية الادارة والاقتصاد, قسم المحاسبة  
[hanin.faeq2106m@coadec.uobaghdad.edu.iq](mailto:hanin.faeq2106m@coadec.uobaghdad.edu.iq)

Received: 18/10/2023 Accepted: 24/12/2023 Published Online First: 30 /8/ 2024

هذا العمل مرخص تحت اتفاقية المشاع الابداعي نُسب المُصنّف - غير تجاري - الترخيص العمومي الدولي 4.0

[Attribution-NonCommercial 4.0 International \(CC BY-NC 4.0\)](https://creativecommons.org/licenses/by-nc/4.0/)



### مستخلص البحث:

تعرضت العديد من الوحدات الاقتصادية خلال السنوات الاخيرة لخسائر نتيجة لسلسلة من العوامل الداخلية والخارجية التي ادت لارتفاع تكاليفها مقارنة بالايرادات المتوقعة نتيجة استخدام مواد ذات تكاليف مرتفعة فضلاً عن اثارها البيئية الكبيرة نتيجة انتاجها مخلفات تصنيع وبهدف معالجة هذه المشكلة قامت الباحثة بأستعمال تقنية التحسين المستمر واستعمال المدخل الياباني و تحديد المواد الاولية ذات التكاليف العالية فضلاً عن كونها ضارة في البيئة والتي تتمثل (النحاس والقصدير والانتيموني والزرنيخ) واستبدالها بسبيكة الكالسيوم الالمنيوم والتي بدورها ادت الى تخفيض التكاليف البطارية وحماية البيئة وقامت الباحثة بالمعاشية الميدانية للشركة العامة لصناعة السيارات والمعدات (مصنع البطاريات) في معمل بابل 2 بهدف تحديد كلفة المواد الاولية الداخلة في صناعة البطارية واستبدالها بمواد اخرى اقل كلفة واقل ضرراً بالبيئة, وتوصلت الباحثة الى مجموعة من النتائج أهمها ان استعمال تقنية التحسين المستمر يؤدي الى تخفيض التكاليف والعمل على انتاج منتج امن ولا يشكل خطراً على الانسان والبيئة كما وان استعمال المدخل الياباني بالتحسين المستمر واستبدال المواد (نحاس وقصدير وانتيموني وزرنيخ) بمواد اقل كلفة فضلاً عن كونها اقل ضرراً بالبيئة مما يؤدي الى تقليل التلوث البيئي وفي نفس الوقت تخفيض التكاليف.

نوع الورقة : ورقة بحثية

المصطلحات الرئيسية للبحث: التحسين المستمر , تخفيض التكاليف