

The combined effect of continuous improvement and training in sustainable quality management

An analytical study in the Police Martyrs Press in the Iraqi Ministry of Interior.

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Abstract

The current study aimed to shed light on the combined effect of continuous improvement and training in sustainable quality management for workers in the Investment Police Martyrs Press affiliated to the Iraqi Ministry of Interior, as the number of workers in the printing press reached (170), and continuous improvement includes four main dimensions: plans, do and check And it was implemented. As for the training, it was adopted in our current study as a one-dimensional, while sustainable quality management consists of three main dimensions: quality costs, social quality, and concern for the environment. Its results were tested the hypotheses of the main and sub-study through the use of a number of methods and statistical means, most notably (regression analysis, structural equations modeling and simple Pearson correlation coefficient), as well as the use of ready-made electronic programs (SPSS vr.28 and AMOS vr.26) The distributed questionnaires reached By the researcher (170) questionnaire distributed to (170) affiliates of the Police Martyrs Printing Press in the Iraqi Investment Ministry of the Interior. The valid questionnaires for analysis were (156) questionnaires. Examining the implementation steps firsthand to detect errors that may occur during the performance of tasks, as well as avoiding sales returns Avoiding the costs of sales returns in order to reduce the wastage costs that may occur as a result of not observing the appropriate standardization standards.

Key words: continuous improvement, training, sustainable quality management.

introduction

Continuous improvement is a new and iterative approach to searching for good and improved methods and implementing them. The strategic purpose of continuous improvement is to build the ability to introduce improvements to the organization's operations quickly and efficiently, and the ability of the organization to adapt to them. To develop the self-capabilities of the organization's personnel, the organization's management must Providing a broad organizational vision for the purpose of directing and defining performance improvement goals, as well as developing the organization's infrastructure that enables sustainable compatibility between business productivity strategy and continuous improvement in operations performance. The rapid and dynamic environmental developments in the general environment of the organizations forced the organizations to pay attention to the workers, as the competitive advantage became not through the shape or size of the product, but rather through what the organization possesses of highly skilled human capital. Therefore, the organizations spent billions of dollars on training human resources. In the organization, as training is considered one of the most important elements of motivation for employees in the organization, and it is a tool for self-development, as well as it has several benefits for the organization and employees alike. Organizations are aware of the level of need for sustainable quality management in light of the growth of standards and legal responsibilities that have been approved to reduce social abuses and environmental damage. Therefore, sustainable quality management is a new system for integrating administrative standards with quality standards for the purpose of reaching sustainable compatibility between the two, and in this way the goals of management are achieved. sustainable quality. In order to take note of the foregoing, the current study was divided into four axes, one of which was devoted to presenting the methodology of the study represented by (the problem of the study, its objectives, importance, limits, hypotheses, a description of its sample, and important statistical methods and tools in order to test its hypotheses), while the second axis dealt with the theoretical aspect of the study. Divided into three paragraphs. The first paragraph was devoted to providing a theoretical framework for continuous improvement and its dimensions, while the second paragraph dealt with a theoretical framework for training with the concept and stages of implementing a comprehensive training program. The third paragraph dealt with the concept, dimensions and importance of sustainable quality management. The third axis of the study was devoted to the practical side, which included testing

the study's standards, building its models, verifying the validity and reliability of the measurement tools adopted in this study, and presenting and analyzing the level and importance of the study variables, by analyzing the answers of the research sample contained in the questionnaire. As for the last axis of the study, it was devoted to presenting a set of conclusions and recommendations that the study reached.

Methodology

First: the problem of the study

Continuous improvement at the present time is a comprehensive practical method, the main objective of which is to improve the performance of the organization in general by eliminating all kinds of waste as well as enhancing the ability of the organization to survive, and since the human resource is the most important resource of the organization at the present time and for the purpose of strengthening the capabilities of workers To implement the process of continuous improvement, it has become the duty of organizations to take care of the workers in their organizations through training, as this is one of the basic principles in the process of continuous improvement, and the organization must introduce workers to specialized courses in continuous improvement for the purpose of maintaining the quality of its products and to bring the organization to the level from which it can Adopting the concept of sustainable quality management, which aims to maintain the organization at the productive, organizational and competitive level that it has reached continuously by following and applying the principles and standards of sustainable quality as a strategic direction that reflects the organization's ability to continue and survive.

Accordingly, the problem of the study is represented by the following question: (Is there a joint effect of continuous improvement and training in sustainable quality management?)

This question stems from several sub-questions, including:

- 1- What is the extent of applying continuous improvement in the Police Martyrs Printing Press in the Iraqi Ministry of Interior?
- 2- To what extent are the employees of the Police Martyrs Printing Press in the Ministry of Interior aware of the importance of continuous improvement?
- 3- Is there a direct impact of continuous improvement in sustainable quality management?

4- Does the Police Martyrs Printing Press in the Ministry of Interior seek through continuous improvement to achieve sustainable quality management?

5- To what extent does training contribute to the organization's access to sustainable quality?

6- Is there an effect of training on sustainable quality management?

Second: the importance of the study

The importance of the study comes in highlighting the importance of the joint impact of continuous improvement and training in sustainable quality management with regard to the printing press of police martyrs in the Iraqi Ministry of Interior and making it accessible to other organizations, and drawing attention to the importance of sustainable quality management as a competitive advantage for organizations, as this study contributes to bridging the gap between the reality of Sustainable quality in the institutions of our country and what it should be, similar to global countries that have come a long way in this field.

Third: Objectives of the study

The main objective of the current study is to know the direct and indirect impact of continuous improvement in its dimensions and training as a one-dimensional variable in sustainable quality management in its dimensions. Several sub-objectives branch out from this objective:

1. Identifying the level of applying the dimensions of continuous improvement in the Police Martyrs Press in the Ministry of Interior.
2. Identify the quality of the products produced by the printing press and their conformity with sustainable quality standards.
3. Identify the relationships and influence of continuous improvement and training in sustainable quality management
4. Presenting the results of this study to the board of directors of the printing press for the purpose of using it in developing the printing press and its products according to the standards of continuous improvement and sustainable quality management.

Fourth: Data and information collection tools

In the scientific aspect, the researcher relied on two aspects. The first was the personal interviews of the printing press workers represented by the printing press administration from two sides, the ministry side and the investor side, for the purpose of identifying the printing presses work and its environmental, social,

economic and other data necessary to complete the current study. Mr. Brigadier) as well as the investor management represented by the authorized director (Engineer Muhammad Al-Rubaie) has increased cooperation after knowing that the researcher is one of the employees of the Ministry of Interior. As for the second aspect, the researcher adopted the questionnaire form (an appendix) as a main tool for collecting data related to the study variables. The questionnaire consisted of (41) questions distributed among the dimensions of the study variables. The researcher used the five-point Likert gradient, as it is one of the most common and widely used statistical measures in the administrative and social sciences.

fifth: The scheme of the hypothetical study

In order to achieve the objectives of the study that were previously discussed, a hypothetical scheme shown in Figure (1) was prepared in order to test it in the Police Martyrs Press in the Ministry of Interior.

The scheme presented in Figure (1) consists of three main variables and has sub-dimensions as follows:

- 1- The first independent variable: continuous improvement and consists of four dimensions (plan, do, check, implement) and the scale (Salih, 2017:177) was adopted.
- 2- The second independent variable: training, and it was taken in this study as a one-dimensional variable, and a scale was adopted. (Almannie & Aldakeel, 2015: 5)
- 3- The dependent variable: sustainable quality management, which consists of three dimensions (quality costs, social quality, and environmental concern). A scale was adopted (Salman, 2022: 226).

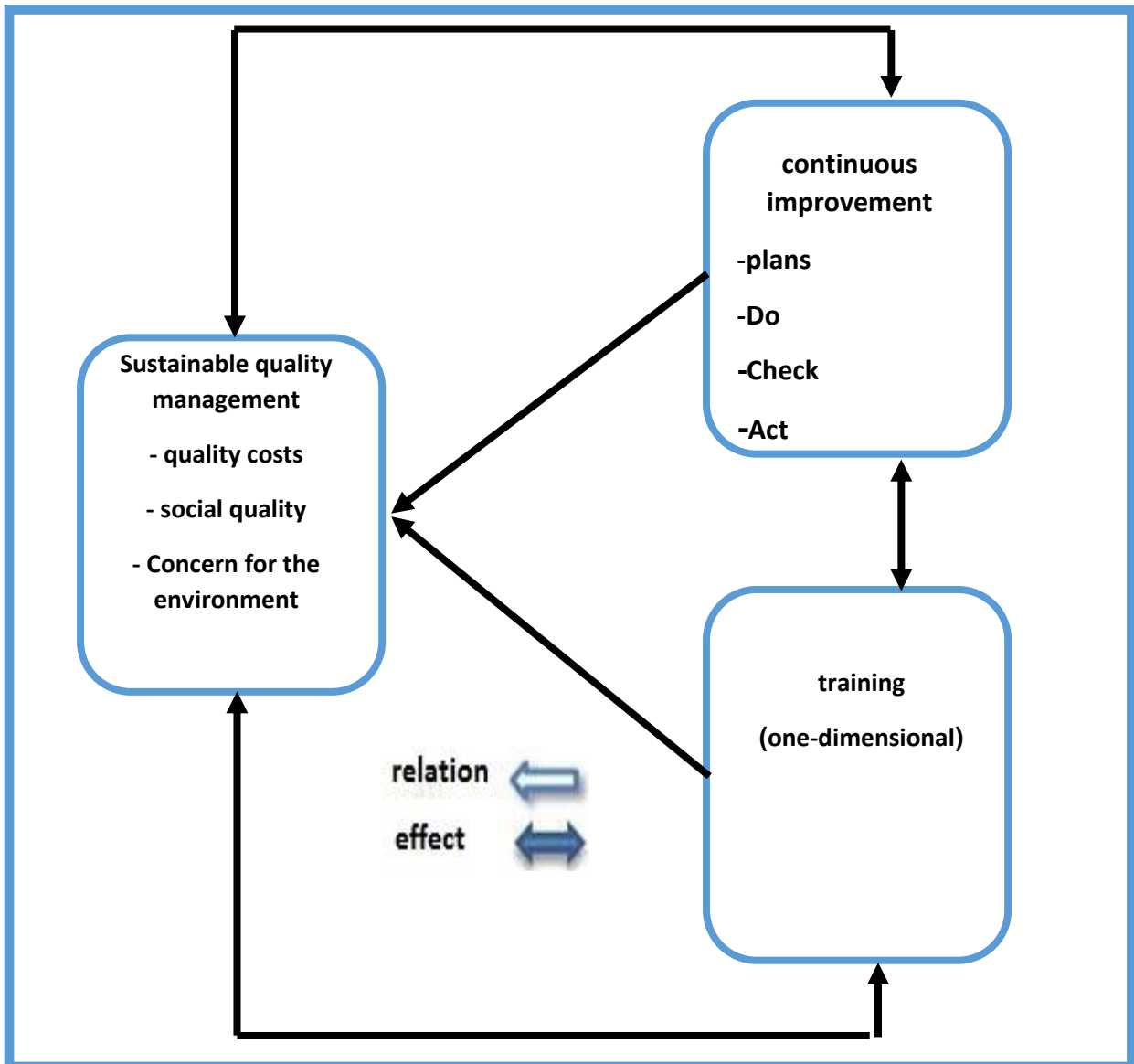


Figure (1) theoretical framework for research

Sixth: The hypotheses of the study

The first main hypothesis: There is a statistically significant correlation between continuous improvement and sustainable quality management. Sub-hypotheses emerge from this hypothesis:

A- There is a statistically significant correlation between plans and sustainable quality management with its dimensions alone or in combination.

B- There is a statistically significant correlation between actions and sustainable quality management with its dimensions alone or in combination.

C- There is a statistically significant correlation between Examine and sustainable quality management with its dimensions alone or in combination.

d- There is a statistically significant correlation between the implementation and sustainable quality management with its dimensions alone or in combination.

The second main hypothesis: There is a statistically significant correlation between training and sustainable quality management with its dimensions alone or in combination. Sub-hypotheses emerge from this hypothesis:

A- There is a statistically significant correlation between training and quality costs.

b- There is a statistically significant correlation between training and social quality.

C - There is a statistically significant correlation between training and interest in the environment.

The third main hypothesis: There is a statistically significant joint effect between continuous improvement in its dimensions alone or in combination, and training in sustainable quality management in its dimensions alone or in combination.

Seventh: The study community and its sample

The target population for the study consisted of all individuals working in the Investment Police Martyrs Printing Press affiliated to the Iraqi Ministry of Interior, which numbered (170) individuals (between officers, employees, policemen and contract workers). As the number of distributed questionnaires reached (170), and (156) of them were approved for their validity for analysis, and the rest was left either because they were not returned or because there was a shortage in them, meaning that the recovery rate was (92%).

Axis: the theoretical side

First, the concept of continuous improvement

The origins of continuous improvement go back to Japan and the term Kaizen, which consists of two parts, the first is the Japanese word “kai”, which means “change” and the word “zen” which means “the best” (change for the better). Some interpret “kai” as continuous, and “zen” as improvement, and it is the term that was a password to sign in to the concept of improvement in every aspect of the organization has today become synonymous with continuous quality improvement in Japan and the world (Sapungan & Cuarteros, 2018:3). See (Johnson& Sollecito ,2020:8). Sollecito notes that continuous improvement began as a "business solution" to address the major weaknesses, including the notoriety for poor quality, that Japan faced in manufacturing after World War II and spread beyond this and has evolved dramatically over time throughout the

world and has not It is limited to manufacturing products only, but has moved to the process of providing services, i.e. work related to customers.

Deming made significant contributions to the development of continuous improvement but is perhaps best known for his 14-point recommendation program for management that improves quality. This development has taken many forms and names over the years, including quality control, quality assurance, and quality management. and improving quality (Johnson & Sollecito, 2020:9). (Jekiel, 2020:34) indicated that continuous improvement is a way to significantly increase the ability and overall performance of each employee in return for a way to reduce costs. (Swink *et al.*, 2020:105) mentioned the process by which activities that do not create added value and activities that generate waste, such as excess time and redundant resources, as well as other undefined activities, are excluded.

Second, the dimensions of continuous improvement

There are many models that researchers used for continuous improvement, however, it was found that Deming's approach is most appropriate because it is not only related to improving processes but also studying the improvement of the entire business, as Deming introduced the PDCA model to Japanese organizations in the year 1950. According to this model, improvement is carried out through four steps Master: Plan-Do-Check and Act (Maruta, 2012:4). Japan has since become the world leader in quality management. The PDCA cycle is also known by two other names, the Shewhart cycle and the Deming cycle. He explains that PDCA stands for Plan, Do, Check, Execute is a well-known model for continuous process improvement and is a model that teaches organizations to plan and do an action and check to see how it confirms the plan and implement based on what has been learned. This course is an integral part of process management and is designed to be used as a dynamic model (Gurung & Wannasri, 2020:12). (Barraza & Smith, 2014:1021) refers to the theoretical assumption in Deming's (1986) hypothesis that (what cannot be measured cannot be improved) in other words (what cannot be understood cannot be measured and therefore cannot be improved) and through this assumption we will address The four stages of the Deming cycle, which are the dimensions of continuous improvement adopted in our study, are:

1- (Plan)

And the first stage of the Deming cycle in the productive process is a basic stage in which opportunities for improvements are identified, as well as subsequent priorities are allocated to them. Likewise, the current state of the process to be

analyzed is determined through consistent data, as well as identifying the causes of the problem and providing possible solutions to solve it(Vargas *etal*, 2018: 4)

2- Do

At this stage, the developed plan is implemented in order to make changes in the process in the organization (in order to raise its productivity or quality and remove the causes of problems), and this is done with the support and understanding of management. Tools such as process maps, performance measurement, flow chart, or checklists can be used.(Kocik, 2017:2).

3- Check

This stage includes analyzing the impact of work overlap by comparing the new data with the original data to determine whether or not improvement has been achieved and whether the measures in the objective statement have been met. Pareto charts, frequency charts, process maps, scatter charts, and control charts are all tools can help with this analysis (Chakraborty, 2016:15).

4- Act

to propose improvement procedures and explore relevant strategies mainly to identify bottlenecks or system limitations and search for opportunities for improvement, and the root causes of poor performance are analyzed, and planning is provided to achieve better improvement at this stage and since it promotes continuous improvement, it must Ensure that there are new issues and that the PDCA cycle is approved again(Ghosh & Ray, 2022:6).

Fourth: the concept of training

Because employees are the bloodstream of any work in the organization, and the achievement or failure of the organization depends on the performance of its employees. Hence, senior management realized the importance of investing in training and development in order to improve employee performance (Elnaga & Imran,2013:5). That many organizations are unsuccessful because their employees are not trained well enough in the skills that really matter in the information age. Training programs help in making knowledge of the employees with more advanced technology and the acquisition of competencies and strong skills in order to deal with the functions and basics of technical equipment that have been introduced recently and therefore training is necessary to raise the performance of the employee. On the use of new technology (Khan, 2012:84). Training means the social, physical and mental growth of individuals while development is making the knowledge and skills of individuals more effective. Training and development are actions to improve their current and future

performance by increasing their ability to perform efficiently and effectively (Ozkeser, 2019:805).

Fifthly : The importance of training

Human resources training has become an important place in contemporary organizations due to its impact on the development of human resource behaviors. Training programs are now being planned and considered as a means to overcome the challenges facing organizations in the work environment, solve problems, develop creative thinking and develop leadership. Training is not a cost. It is the most sustainable investment for the organization to improve the level of motivation. employee which leads to superior customer satisfaction, product and service quality (Adhab, 2021:4519). The importance of training stands out by making training a means of retaining and attracting employees rather than relying on hiring external talent. Increased corporate profitability, capital investments and more positive business outlook will also support training decisions, while investment in training and upskilling/reskilling will be Beneficial to the economy as a whole, which helps to adapt to structural changes and supports a strong recovery (Pouliakas & Wruuck, 2022:5).

Sixth : stages of the training process

TNA (Training Need Analysis)/A proactive approach is needed in TNA in order for the line manager's involvement to be more feasible as he is required to document training needs and also perform a cost analysis on return on investment versus training costs(Niazi, 2011:45).

Designing a training program/ consider that design is the outline of the basic characteristics of training, as training design refers to the degree to which training is designed and delivered in a way that provides trainees with the ability to transfer learning to the job after training ends(Shaik& Devi, 2012: 729).

Developing the training program/considers that the development of the training program means the actual assembly of the content and training materials of the program and means choosing the specific content that the program will provide in addition to designing / choosing specific educational methods(Dessler, 2020, 247).

Implementation of the training program/After completing the previous three steps, the next step for creating an effective training program should be the implementation of the training program. The success of implementing the training and human resource development program depends on choosing the program in order to produce the right people under the right conditions. Training Needs Analysis (TNA) can help in Identifying the right people and the right program

While some training development and reflection programs can help create the right case (Mulang, 2015:195).

Evaluating training program /(Divyaranjani & Rajasekar, 2013: 3) consider the definition of training evaluation as a systematic process of collecting data to determine whether training is effective or not, and the evaluation must include procedures that ensure the alignment of the training activity with the organization's strategy, and organizations spend a huge amount of time and money on training through In order to facilitate employee learning of job competencies as a result of the financial investments organizations make in training, it is important to provide evidence that training efforts are being fully achieved.

seventh: the concept of Sustainable quality management

Sustainability is a challenge that requires an integrated approach to linking the economy, society and the environment. Many attempts to explain the concept of sustainability have led to different meanings for the same concept depending on the field of application, whether it is human, social, environmental, biological or industrial. In 1987, the Brundtland Commission identified sustainability. It is the unit that meets the needs of the present without compromising the ability of future generations to meet their own needs(Frizziero*etal.*,2018:1). (Aquilani *etal.*, 2016:1) looks at sustainable quality management as a joint value creation approach by following a strategic perspective in that it proposes, as total quality management and sustainability, a whole new philosophy for doing business, and not just in a different way, and the use of the term (co-value creation) means that benefit Creatively drawing from all the capabilities of stakeholders in the intersecting actions of the social, commercial, urban, and natural communities can lead to better states of governance, infrastructure, development, and sustainability. As defined by (Jaehn, 2016:5) as sustainable procedures that model the quantitative aspects of business management, which in addition to their economic goals aim equally at sustainability in the environmental and social sense by applying methods of operations research to solve them.

Eighth :The importance of Sustainable quality management

The importance of sustainable quality management can be summarized in the results and capabilities that the organization will reach by adopting its principles such as the ability to provide strong and sustainable competitive performance, withstand economic, social and environmental crises, and maintain market leadership through recognition by competitors (Kantabutra , 2014:8). And the COVID-19 virus pandemic had many repercussions on future sustainability

opportunities, and the (COVID-19) pandemic crisis had many repercussions on future sustainability opportunities. For this reason, the global impact of the COVID-19 virus epidemic on the indicators of achieving sustainability in the human, economic and social dimensions Environmental and Unprecedented Challenges to Achieving Sustainability The COVID-19 pandemic (2020-2022) has shaken societies out of ordinary life and may have created new conditions for sustainability transformations due to the scale of the crisis. Researchers should not only accelerate the pace of scientific production to provide much-needed knowledge about COVID- 19, but also to promote research in the science of sustainability and the challenges that arise, hence the urgent importance of sustainable quality management (Khalafetal.,2023:2).

Ninth : the dimensions of Sustainable quality management

In the business environment, an organization is considered sustainable when it promotes gains in its three pillars: economic, environmental, and social. This approach is known as the Triple Bottom Line (TBL). Clean that improve reputation through the product life cycle and management and create new job opportunities due to the creation of new technologies or focus on untapped markets (Machado *etal.*, 2017:4).

The current study will adopt the three dimensions of quality costs, social quality, and environmental concern, for their consistency with the study's directions and objectives.

The costs of quality

Quality costs represent costs to ensure adequate quality and prevent losses when appropriate quality is not achieved. The European Organization for Quality defines quality-related costs as the expenses involved in prevention and evaluation activities and internal and external costs of failure. The final cost of quality is the result of the following costs: Prevention costs are necessary To exclude errors and costs of evaluation as a result of the final evaluation of the product and the costs of failure that we bear to meet the purpose for which the product was created (Stanciu & Pascu, 2014:2).

Social quality

The concept of social quality emerged in the 1990s in response to scientific and political concerns about economic dominance in discussions about the future of the European Union as well as in discussions taking place in many member states including the United Kingdom. Social quality has been defined as the extent to which people are able to participate in social, economic and cultural life. their

communities under conditions that enhance their individual well-being and potential(Holman&Walker,2018:247).

Concern for the environment

The environmental concern is through the determinants and requirements set by ISO-1400 as standards for the development of environmental issues and for the development of environmental policy, goals and objectives. Measuring operational activities and checking and auditing the environment is important (Yass, 2015:4).He believes that environmental impact can be measured mainly in three aspects: resource consumption, waste management, and pollution control (Pengetal., 2018:4).

Axis: the practical side

First, coding and characterization

For the purpose of analyzing the data easily and with high credibility, it is required that we express it with some symbols that facilitate the statistical analysis of this data, and the table (1) shows the description and coding of the dimensions and variables of the study.

table(1) encoding the variables of the measurement tool

Symbol		Paragraphs	Dimensions	Variable
COIM	CIPL	5	Plan	Continuous Improvement
	CIDO	5	Do	
	CICK	5	Check	
	CIAC	5	Act	
TRAI		6	one-dimensional	training
SUQM	SQCO	5	costs of quality	Sustainable quality management
	SQSC	5	social quality	
	SQEN	5	Concern for the environment	

Second, confirmatory factor analysis

A- the structural structure of the continuous improvement measur

This paragraph is concerned with showing the extent of the credibility and accuracy of the structural structure of the continuous improvement scale. It was measured by four dimensions distributed over (20) paragraphs. The structural structure was built for it through the (AMOS.V.26) package, as it is noted from

the results of the table (2) that the indicators The quality of conformity was consistent with the criteria required in the above table, which means that these indicators reflect the accuracy and credibility of the structural structure of this variable.

Table (2) indicators of conformity quality related to the continuous improvement measure

Indicator	indicator value	comparison	researcher's decision
X2/ df	1.827	less than 5	accepts the model
Absolute Conformity Indicators (AFI)			
GFI	0.922	greater than 0.90	accepts the model
AGFI	0.914	greater than 0.90	accepts the model
RMSEA	0.073	less than 0.080	accepts the model
Increasing Conformity Indicators (IFI)			
CFI	0.906	greater than 0.90	accepts the model
NFI	0.917	greater than 0.90	accepts the model

Source: Prepared by the researcher based on the results of the program Amos vr.26

The results of the table (2) show that the paragraphs of the dimensions of the continuous improvement variable explain the dimensions for which they were set, as they obtained varying degrees higher than (0.30) to indicate the stability of these paragraphs towards the interpretation and statement of the importance of the dimensions to which they belong, which indicates the validity of building the structural structure of this variable .

B- Structure of the training measure

This paragraph is concerned with showing the extent of the reliability and accuracy of the structural structure of the training scale. It was measured by (6) paragraphs, and the structural structure for it was built through the package (AMOS.V.26), as it is noted from the results of Table (3) that the indicators of conformity quality were consistent. With the criteria required in the above table, which means that these indicators reflect the accuracy and credibility of the structural structure of this variable.

Table (3) Indicators of conformity quality related to the sustainable quality management measure.

Indicator	indicator value	comparison	researcher's decision
X ² / df	1.189	less than 5	accepts the model
Absolute Conformity Indicators (AFI)			
GFI	0,905	greater than 0.90	accepts the model
AGFI	0,900	greater than 0.90	accepts the model
RMSEA	0,064	less than 0.080	accepts the model
Increasing Conformity Indicators (IFI)			
CFI	0,901	greater than 0.90	accepts the model
NFI	0,906	greater than 0.90	accepts the model

The results of the table (3) show that the paragraphs of the dimensions of the training variable explain the dimensions for which they were set, as they obtained varying degrees higher than (0.30) to indicate the stability of these paragraphs towards the interpretation and statement of the importance of the dimensions to which they belong, which indicates the validity of building the structural structure of this variable.

C- the structural structure of the sustainable quality management measure

This paragraph is concerned with showing the extent of the credibility and accuracy of the structural structure of the sustainable quality management scale. It was measured in three dimensions distributed over (15) paragraphs, and the structural structure was built for it through the package (AMOS.V.26), as it is noted from the results of the table (4) that the indicators The quality of conformity was consistent with the criteria required in the above table, which means that these indicators reflect the accuracy and credibility of the structural structure of this variable.

Table (4) Indicators of conformity quality related to the sustainable quality management measure

Indicator	indicator value	comparison	researcher's decision
X ² / df	1.992	less than 5	accepts the model

Absolute Conformity Indicators (AFI)			
GFI	0.928	greater than 0.90	accepts the model
AGFI	0.914	greater than 0.90	accepts the model
RMSEA	0.059	less than 0.080	accepts the model
Increasing Conformity Indicators (IFI)			
CFI	0.919	greater than 0.90	accepts the model
NFI	0.903	greater than 0.90	accepts the model

Source: Prepared by the researcher based on the results of the program Amos vr.26

The results of the table (4) show that the paragraphs of the dimensions of the sustainable quality management variable explain the dimensions for which they were set, as they obtained varying degrees higher than (0.30) to indicate the stability of these paragraphs towards the interpretation and indication of the importance of the dimensions to which they belong, which indicates the validity of building the structural structure of this variable.

Third: descriptive statistics

a. Continuous improvement variable

The continuous improvement variable consists of four dimensions

Table (5)

Results of descriptive statistics for the continuous improvement dimensions

dimension	Arithmetic mean	Standard deviation	Relative importance	order of importance
CIAC	3.31	0.78	0.66	4
CICK	3.39	0.83	0.68	3
CIDO	3.61	0.82	0.72	1
CIPL	3.51	0.75	0.75	2
Total	3.46	0.72	%69	

Source: Prepared by the researcher based on the results of the program Amos vr.26

It is noted from the results of the table (5) the awareness of the employees of the Police Martyrs' Press in the Ministry of Interior of the importance of continuous improvement by achieving an arithmetic mean of (3.46) and a standard deviation of (0.72), and this is between a relative interest of (69), which means the interest

of the employees of the Police Martyrs' Press in The Ministry of the Interior includes the capabilities of their work by examining the steps of implementation firsthand to detect errors that may occur during the performance of tasks.), to indicate the interest of the workers in the Police Martyrs' Press in the Ministry of the Interior to write down the information related to the implementation and improvement of the printing press's mechanisms in order to develop it continuously, while the implementation dimension came in the last place with an arithmetic mean of (3.31) and a standard deviation equal to (0.78), which means the workers' interest In the Police Martyrs Printing Press in the Ministry of the Interior, errors are corrected periodically, wherever they are.

b. training variable

This variable was described through six important paragraphs, and these paragraphs depended by their nature on the arithmetic mean, standard deviation, relative importance, level and direction of the answer, which are as follows:

Table (6)

dimension	Arithmetic mean	Standard deviation	Relative importance	order of importance
TRAI1	3.28	1.03	66%	2
TRAI2	3.40	1.08	68%	1
TRAI3	3.25	1.06	65%	5
TRAI4	3.23	1.04	65%	6
TRAI5	3.27	1.02	65%	3
TRAI6	3.27	0.98	65%	4
Total	3.28	0.73	66%	

The results of the table (6) show that the employees of the Police Martyrs' Press are interested in the training variable, with an arithmetic mean of (3.28) and a rather low standard deviation of (0.73), which means that the employees of the Police Martyrs' Press are aware of the importance of developing training plans that improve their The ability of the police martyrs printing press to meet the actual needs of the workers. This variable was measured through six items, the foremost of which was the second paragraph, with an arithmetic mean of (3.40), a standard deviation of (1.08), and a relative interest equal to (68%). The results also showed the interest of the workers in the Police Martyrs' Press in the paragraphs of the training variable, with an arithmetic mean ranging between (3.23 – 3.40) and a different relative interest that ranged between (65% - 68%),

which means that the workers in the Police Martyrs' Press are aware of the importance of providing A stimulating environment for workers to apply their acquired experiences and ideas in order to improve the performance of this printing press.

c. sustainable quality management variable

Table (7)

Results of descriptive statistics for the sustainable quality management dimensions

dimension	Arithmetic mean	Standard deviation	Relative importance	order of importance
SQCO	3.25	0.79	0.65	3
SQEN	3.3	0.82	0.66	1
SQSC	3.3	0.83	0.66	2
Total	3.23	0.73	%66	

Source: Prepared by the researcher based on the results of the program Amos vr.26

It is noted from the results of the table (7) the awareness of the employees of the Police Martyrs' Press in the Ministry of the Interior of the importance of sustainable quality management by achieving an arithmetic mean of (3.23) and a standard deviation of (0.73) This is among the relative interest of its value (66%) ,and this variable was measured through three dimensions, at the forefront of which was the dimension of concern for the environment, as it obtained the highest arithmetic mean of (3.30) with a dispersion of (0.82), to indicate the interest of the workers in the Police Martyrs Press in the Ministry of the Interior, while it came The quality costs dimension ranked last, with an arithmetic mean of (3.25) and a standard deviation equal to (0.79).

Fourth: Testing the hypotheses of correlation

The main hypothesis states that: “The more employees realize the existence of a joint effect of continuous improvement and training, the more this will lead to improvement in sustainable quality management for them (quality costs, social quality, and environmental concern).

It is noted from the results of table (8) that the awareness of the workers in the Police Martyrs Press of the importance of a joint effect of continuous improvement and training contributes to improving their sustainable quality management, which means an improvement in the skills of workers by one unit,

which in turn leads to an improvement in their sustainable quality management , and this improvement contributed to reaching a complete correlation and increasing the relationship from (0.876) to (1) between continuous improvement and training, which means that the joint effect between continuous improvement and training contributed to the interpretation of (0.983) from the square of the variation in sustainable quality management, to show the interest The employees of the Police Martyrs Printing Press apply a joint effect of continuous improvement and appropriate training that contributes to enhancing the capabilities of the employees in acquiring sufficient experience by focusing on improving their capabilities continuously, which leads to the acquisition of accumulated experience through training. The combined effect of continuous improvement with training contributed to a significant improvement in The capabilities of workers to acquire sufficient skills and experience through training at a rate of (0.222), which means an improvement of (0.760) for continuous improvement, and (1.068) for training. the study

table (8)

The results of the joint impact analysis of continuous improvement and training in sustainable quality management.

Effect type	Probability (P)	Coefficient of determination R2	Critical ratio	Standard error	Standard weights	Regression path		
moral	***	0,983	11.014	0,069	0,760	sustainable quality management	<-	cont
moral	***		15.706	0,068	1,068		--	impro

Conclusions and Recommendations

1-Conclusions

- a. By reviewing the literature, the researchers note that the literature agrees that continuous improvement is a fact of organizational life, a phenomenon that exists in modern organizations and is often an integral part of the general characteristics of the modern workplace.
- b. The literature reviewed shows that sustainable quality management in the workplace is a form of successful work and has an impact on individual and organizational outcomes as it creates a friendly work environment and thus leads to higher productivity, job satisfaction and organizational commitment.

- c. The results of the research indicated that there is a direct and significant relationship between the variable of continuous improvement and sustainable quality management. This means that the presence of continuous improvement in the Police Martyrs Press in the same research is reflected in achieving a high level of creativity in the workplace.
- d. The results of the practical side showed that there is a positive effect between continuous improvement and sustainable quality management in the workplace and within the level of positive and strong influence, and that all dimensions of continuous improvement achieved an impact on the variable sustainable quality management and its dimensions, and this result provides partial support for accepting the sub-hypotheses.
- e. The results showed that there is a statistically significant correlation between (continuous improvement, sustainable quality management), which contributed to improving the quality of the printing press products, which requires the printing press administration to pay attention to providing continuous improvement programs and developing its employees to improve sustainable quality management.
- f. The printing press management is keen to clarify its vision and mission to the employees and apply continuous improvement through its various operations and activities, which contributes to improving the management's ability to provide appropriate programs and devices to meet work requirements.
- g. Continuous improvement processes are an essential factor in modern and successful organizations, They are a key factor for excellence and ability and an important resource for creating a competitive advantage for organizations.
- h. The printing press management seeks to build a sound database to ensure the flow of information to all its departments, which contributes to improving the printing press's performance and diagnosing and analyzing threats.

2-Recommendations

- a. It is important to replace disappointing workers and work to adopt modern patterns that enhance cooperation between individuals, and allow them to participate in decisions to help create a suitable work environment.
- b. The printing press management is keen to motivate employees to develop their capabilities, which requires them to provide appropriate programs, tools and mechanisms to improve their skills in sustainability.

- c. The Department's management should seek to implement continuous improvement in order to ensure the achievement of quality that gives strength and ability to confront environmental threats.
- d. The management of the printing press should provide various programs, information and knowledge for the development of employees, which requires them to develop new means and methods that encourage employees to be creative at work.
- e. The management of the printing press should provide advanced equipment and devices, which requires it to seize the largest possible number of opportunities available to it in order to ensure the creation of a new work style within the management of the printing press.
- f. The management of the printing press must be keen to update its database continuously in order to ensure the exchange of knowledge and experience within the headquarters of the department.
- g. The management of the printing press must attract workers with high skills and experience to work in it, which requires a high promotional process to attract the largest possible number of workers with high skills.
- h. The necessity of improving the management of the printing press for internal communication capabilities between its departments and internal departments, which requires improving direct interaction with employees and customers.

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