



The possibility of applying the international standard (ISO 10006:2017) To manage the quality of the project in the Directorate of the municipality of Dhuluiya

Dr. Fadheelah Salman Dawood¹

Ammar Farouk Ahmed²

Journal for Educators, Teachers and Trainers, Vol. 13 (5)

<https://jett.labosfor.com/>

Date of reception: 10 Aug 2022

Date of revision: 11 Oct 2022

Date of acceptance: 12 Oct 2022

Dr. Fadheelah Salman Dawood, Ammar Farouk Ahmed (2022). The possibility of applying the international standard (ISO 10006:2017) To manage the quality of the project in the Directorate of the municipality of Dhuluiya *Journal for Educators, Teachers and Trainers*, Vol. 13(5). 514-530.

¹Prof, University of Baghdad - College of Administration and Economics - Department of Industrial Management

²Researcher, University of Baghdad - College of Administration and Economics - Department of Industrial Management



The possibility of applying the international standard (ISO 10006:2017) To manage the quality of the project in the Directorate of the municipality of Dhuluiya

Dr. Fadheelah Salman Dawood¹, Ammar Farouk Ahmed²

¹Prof, University of Baghdad - College of Administration and Economics - Department of Industrial Management

²Researcher, University of Baghdad - College of Administration and Economics - Department of Industrial Management

Email: Dr.fadhiela.salman@coadec.uobaghdad.edu.iq¹, amar.farook1205a@coadec.uobaghdad.edu.iq²

ABSTRACT

The research seeks the possibility of applying the international standard (ISO 10006: 2017) in one of the projects of the Directorate of Dhuluiya Municipality within Salah al-Din Governorate, including the project (the implementation of the Hawally road linking the concrete bridge and the floating bridge and paving streets in the district of Dhuluiya) in order to assess the extent of the application of the standard as A checklist was used as a main tool for research, in addition to personal interviews by adopting the descriptive approach, a case study. Those responsible for the project and the company executing the project were interviewed. The researcher reached the most important results, which is that the project quality plan clause of the specification has obtained the highest gap, followed by principles Quality management, project quality processes, and finally the context and project characteristics.

Keywords: project management, project management quality system, international standard.

INTRODUCTION

There is the need to conduct periodic project evaluations in order to ensure that the work is being accomplished as planned - the project review process helps motivate team members to complete the tasks assigned to them in the best way by identifying the gaps and taking corrective measures and taking them into consideration in the Future projects, that is, it helps everyone to continue focusing on the project goals and making work towards the goal by everyone. Therefore, the project evaluation process is an important activity in the management of any project. Many parties from project owners, decision makers, and project funders emphasize the importance of the role played by the project evaluation process. In his success and continuity and the achievement of his goals.

The first topic: the scientific methodology of research Preface

The topic deals with a detailed presentation of the research problem, the importance of the research, the research objectives, the procedural scheme of the research, the limits of the research, the research community and sample, the measurement tool, and as follows:

First: the research problem: Today, companies and government departments, including the Dhuluiya Municipality Directorate, seek to improve the quality of their projects, which is an important matter due to technical development and technology, as well as competition between companies based on project completion. Therefore, it has become necessary to follow modern technological methods in the completion of projects. One of these methods is the project quality management system specification. The international standard (ISO 10006: 2017), especially that the Dhuluiya municipality directorate has a service aspect - the problem lies in knowing the extent to which the international standard (ISO 10006: 2017) can be applied in the projects of the Dhuluiya municipality directorate and through the research problem can answer the following questions: -

1. What is the possibility of applying the international standard (ISO 10006: 2017) projects in Salah al-Din Governorate - Directorate of Dhuluiya Municipality.
2. What are the gaps of the provisions of the International Standard (ISO 10006: 2017) when applying to the research sample.

3. Can project management in projects in Salah al-Din Governorate - Directorate of Dhuluiya Municipality - Dhuluiya District provide the necessary requirements for the application of the international standard (ISO 10006: 2017).

Second :The importance of this research

lies in improving the quality of projects through the application of the international standard (ISO 10006: 2017) related to the quality of project management and through: Directing decision makers to develop an appropriate methodology for evaluating projects in accordance with the international standard (ISO 10006: 2017). Assist the resident engineer to see the importance of applying the international standard ISO 10006: 2017) in general and in the research sample in particular. Guiding the senior leadership in Salah al-Din Governorate - Dhuluiya Municipality Directorate on the importance of the international standard (ISO 10006: 2017) in future projects.

Third: Research Objectives

Presenting a concept for evaluating projects in accordance with the application of the international standard (ISO 10006: 2017) related to the quality of project management for publication and application. Study and analysis of the reality of the work of the Directorate of the Municipality of Dhuluiya in Salah al-Din Governorate on the application of the international standard (ISO 10006: 2017). Determining the gap or gaps for each item of the International Standard (ISO 10006: 2017) in the research sample and determining the necessary procedures for applying the standard for the purpose of obtaining projects with the required engineering specifications and with high quality.

Fourth: The research plan

Through the problem, research objectives and the provisions of the international standard (ISO 10006: 2017), especially the fourth requirement, the project management quality system, the main variable of the research scheme was identified.

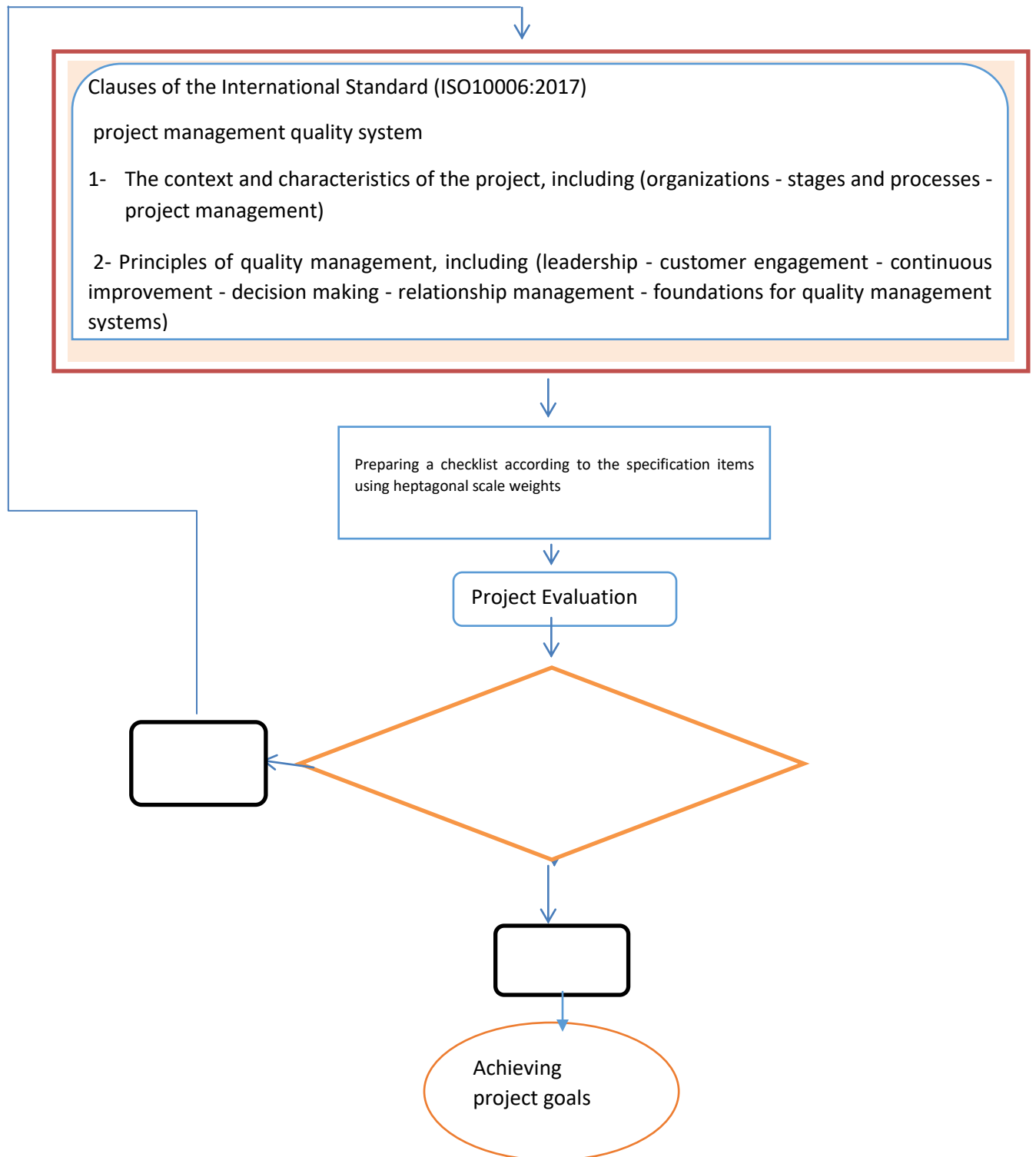


Figure (1): The action chart

Source: prepared by the researcher.

Fifth: The limits of research Spatial boundaries

Salah al-Din Governorate - Dhuluiya District - Directorate of Dhuluiya Municipality - Project (Implementation of the Hawally Road linking the concrete bridge and the floating bridge and paving streets in the district of Dhuluiya) > Time limits: The research started from 7/1/2022 until 30/4/2023, including field visits to the project. 1- Human limits: those responsible for managing projects in Dhuluiya district and in the company executing the project. 2- Objective limits: the provisions of the international standard (ISO 10006: 2017) the fourth requirement of the project management quality system (context and project characteristics - quality management principles - project management quality processes - project quality plan).

Sixth: Research Methodology

The researcher relied on a case study approach to the reality of (Dhuluiya Municipality Directorate in Salah al-Din Governorate) for the project (Implementation of the Hawally Road linking the concrete bridge and the floating bridge and paving streets in the district of Dhuluiya) for the purpose of reaching the desired goals and results by taking advantage of the mechanisms provided by the curriculum and using more than One method such as (checklists, reviewing project files for the purpose of collecting information, notes on projects and conducting interviews directly with project management officials) in order to analyze data and discuss the results scientifically to reach the desired goals.

Seventh: Population and research sample

1. Research community: Directorate of Dhuluiya Municipality in Salah Al-Din Governorate.
2. Research sample: The project (Implementation of the Hawally Road linking the concrete bridge and the floating bridge and paving streets in Dhuluiya) in the district of Dhuluiya was selected as a sample for research.

A checklist designed to record data in accordance with the requirements of the International Standard (ISO 10006: 2017) was used through the following items (context and project characteristics - quality management principles - project management quality processes - project quality plan) which helps analysts to know the conformity between the actual reality And between the requirements of the specification and identifying the gaps through the use of weights for the Seventh Likert scale, as shown below

Table (1) shows the items of the Seventh Likert scale

paragraphs	weight
Fully Applied Completely Documented	6
Fully Applied Partially Documented	5
Completely undocumented	4
Partially applied fully documented	3
Partially Applied Partially Documented	2
Partially Applied Undocumented	1
Not applicable Not documented	0

The gap for each list is determined by:

1- Result = weight x repetitions

Arithmetic mean = total score ÷ total repetitions

Percentage (the rate of compliance with the standard) = arithmetic mean ÷ 6 - size of the gap = 1 – percentage The second topic: the theoretical side

This topic consists of two parts

the first part: evaluation of projects and includes (the concept and definition of project management - project characteristics - concept and definition of project evaluation - project evaluation objectives). Project management quality (context and project characteristics - quality management principles - project management quality processes - project quality plan) - benefits of the quality management system in projects).

First: the concept and definition of project management

Project management is in essence managing organizations, so it requires effective application of a wide range of general management skills in order to achieve the desired goals. The skills that senior executives use daily in directing their organizations are useful and appropriate for project management. The concept of project

management: Organizing any task as a project is due to the concentration of responsibility and authority for an individual or a small group to ensure the achievement of the goals that the various activities of life, especially the economic one, are in a state of development and growth in various directions and specializations, which is one of the characteristics of the current century and through the presence of a certain idea that helps in making future decisions In any organization or facility for the purpose of expanding and developing the current situation, expansion or development cannot be achieved without the presence of a perceptive management capable of directing and supervising. The growing acceptance of project management indicates that the application of appropriate knowledge, processes, skills, tools and techniques can have an incapable impact on the success of the project. Identifying that subset of the body of knowledge for project management is generally recognized as good practice. “Generally recognized” means that the knowledge and practices described are applicable to most projects of the time, and there is consensus about their value and usefulness. :4) PMBOK, 2008) The organization of the project allows the manager to be more quick to respond to the customer, so he can take appropriate decisions to solve problems as soon as possible before they escalate. Most organizations that use scientific formulas to manage the project indicate that they have gained experience in building better relationships with the customer It was positively reflected in the performance through time, cost and quality indicators (less time - lower cost - higher quality). The administration also helps in achieving higher satisfaction for employees through better coordination between departments. (Al-Obaidi & Al-Fadl, 2010: 23) and (Zocar, 2018: 28), and the table below shows the definitions for project management, as follows

Table (2) The views of some writers and researchers on the definition of project management from (2010 - 2022)

Author year page	definition
Roberts & Wallace 2008:10	A process for organizing, planning, managing, coordinating and controlling all project resources from its inception until its completion for the purpose of achieving project objectives on time, within cost limits and according to the required specifications
Al-Obaidi & Al-Fadl 2010: 23 14	It is the administrative function that includes the responsibility of defining (objectives – organizing – planning – scheduling – estimated budgets – direction and control) to achieve the technical and time standards of the project.
PMBOK 2017 ,31	The application of knowledge, skills, tools, and techniques to project activities to meet project requirements - a project management profession: a formal document describing applicable standards, methods, processes and practices
Zocar 2018 : 28	The art of achieving the highest possible possibility to achieve the project's goals in the specified time, budget and the required quality
Arab Entrepreneur 2022,8	A combination of methodologies and techniques that help in planning, organizing and scheduling everything that contributes to the success of the project

Source: Prepared by the researcher based on the researchers mentioned in it.

The researcher concluded that project management is an administrative function that works on applying knowledge to project activities to achieve project goals on time, within the specified budget and with the required technical specifications.

Second, the characteristics of the project

Projects have a set of characteristics that distinguish them from other businesses, the most important of which are 1- Purpose: projects are designed to achieve planned goals, tasks and purposes. The size and nature of the project depends on the complexity of the task, as the project is divided into partial tasks to achieve those goals (Al-Obaidi & Al-Fadl, 2010: 20) 2- Temporary: All projects are designed considering that the available time period is limited. This means that each project has a specific beginning and end. We reach the end of the project when the goals are achieved or when it becomes clear that the project's goals are not achievable. The word temporary does not necessarily mean a short period, as there are projects that lasted for several years. The time delay from the predetermined project completion date is one of the factors of failure and leads to an increase in the cost of the project. The summary of the duration of the project should be specific and not open. (Zocar, 2018: 21) He presented

((Al-Mawashi, 2016:22)) regarding the project characteristics: 3- Uniqueness: the project in its implementation needs unique and non-routine activities, even if two projects are similar in nature, size and shape, the implementation of each of them needs different activities (the nature of management - risks - resources). 4- Overlapping dependency: projects need sequential and overlapping activities with each other and also overlap with other functional departments in the organization such as (individuals - finance) and may overlap with other parties such as (suppliers - subcontractors), the completion of the project does not depend on the project manager and crew Not only, but depends on and overlaps with the parent organization (the top management). 5- Conflict: The project is a social activity in which interests may conflict if the overlap in the project activities leads to a conflict, so this conflict must be managed in a way that achieves the project's goals effectively and efficiently. 6- Risks: The project, due to its characteristics and objectives in time, cost and specifications, increases the risks, especially if it deviates from achieving these objectives, thus exposing the project to risks.

Third: The concept and definition of project evaluation The processes of planning, design, follow-up and evaluation are essential parts of the project management approach according to results (impacts), i.e. management by results and effects. The evaluation process is based on finding a kind of compatibility between the criteria included in that process and the objectives of the proposed project. That is, estimating the value of a particular thing in comparison with something else, that is, comparing the achieved results with the set goals, which is the famous administrative principle that governs the management philosophy and directs it with the results it achieves, that is, with the effects it creates. The basic idea that governs the project cycle, especially follow-up and evaluation, lies in helping officials to manage resources and activities in a project to improve the results and effects of the project, whether in the short or long term. The follow-up and evaluation will be as follows: (Al-Banna, 2011: 9). 1- Follow-up: it relates to the two stages of input and output, and it monitors what resources have been invested and what has been produced or achieved 2- Evaluation and review: it relates to the stage of results and depends on the data and information provided by the follow-up process, and we compare it with what is planned to be achieved. 3- Verification of the effects: the last series of project results and focus on the long-term continuous changes that have occurred and how the results of the project contribute to the effects of those effects on everyone (Al-Mughrabi, 2017: 4, 5). The different types of project evaluation provide insight and reveal areas that may need improvement. It can be difficult to estimate project management with abundant moving parts, but project evaluation is designed to make the process much easier. Every project begins with careful planning, and this paves the way for the project implementation phase, while estimates, plans, and schedules guide the project team as they complete tasks and deliverables. Monitoring is necessary in order to ensure the achievement of results and objectives and to take corrective measures (Williams, 2008: 3) and it can be illustrated through Figure (2)

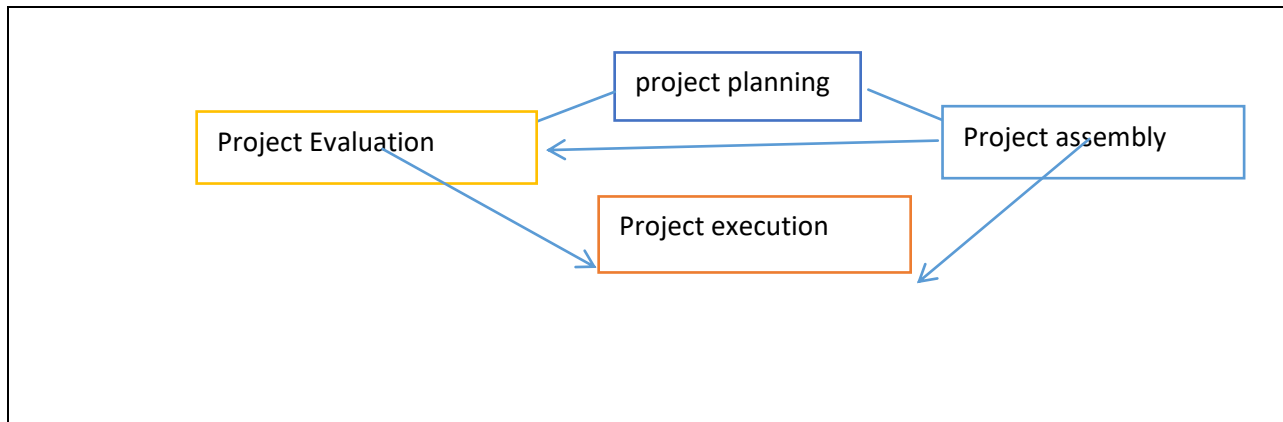


Figure 2: shows the project evaluation development cycle

Source: Prepared by the researcher based on what was mentioned in the above sources

Table (3): Writers and researchers' viewpoints on the definition of project evaluation from (2011-2021)

Author year page	definition
Al-Banna, 2011: 12,11	The process of identifying merit, value, importance, and evaluation is the result of all of this, the process of making comparisons for the purpose of improving decision-making
The Moroccan, 2017: 6	An organized scientific process that includes collecting evidence, making comparisons and measuring things against criteria. The outcome of the evaluation must be measurable and not just descriptive opinions..
Arab Entrepreneur, 2021	A process that helps administrators manage project resources and activities to enhance development outcomes along the project's phases, from the short to the long term

Source: Prepared by the researcher based on the researchers mentioned in it. From the above, project evaluation is a process of comparing the actual reality with specific criteria for the purpose of identifying weaknesses and taking the necessary corrective measures to achieve the results.

Fourth: Objectives of project evaluation

(Ismail, 2010: 18) and (Abu Abdel Aziz, 2015: 3) see the goals that the investment decision-maker seeks to achieve through project evaluation, as follows:

1. A method that can help achieve the optimal use of available resources
2. A means that helps reduce the degree of risk for the invested funds, as through the project evaluation process, the appropriate alternative can be selected from among several alternatives.
3. It helps in directing the money to be invested to that area that ensures the achievement of the specified goals
4. A method that helps rationalize investment decisions

Fifth: International Standard (ISO 10006:2017)

A document issued in November of the year (2017) for quality management that was issued by the Technical Committee (TC176 / ISO) of the International Organization for Standardization. It is the third version. The first version was the specification (ISO 10006:1997) and the second version was the specification (ISO 10006:2003). Then the standard (ISO 21500: 2012) was issued, as the three versions provide guidance on project quality management and comply with the standard specifications (ISO 9000: 2015 and ISO 90001: 2015). These specifications depend on the seven principles of quality management, which are (customer focus - Leadership - Employee Engagement - Management Approach - Evidence-Based Decision Making - Continuous Improvement - Relationship Management) This specification is used for all projects regardless of size and level of complexity (Al-Afandi, 2018: 209). It was presented (Al-Tai and others, 2010:310) that the International Standard Organization (ISO) aims at the following:

1. Facilitating trade exchange while developing methods of cooperation in the fields of work.
2. Develop different areas of work that can be measured.
3. It helps in setting standards and foundations for granting the certificate related to achieving standard levels. (Mohammed, 2017:20)

As for the provisions of the specification (ISO 10006:2017) that the researcher took for the project management quality system, it includes:

1. The context and characteristics of the project
2. Principles of Quality Management
3. Project management quality processes
4. Project quality plan Because the rest of the items represented in the first, second and third items, especially the work of the specification and guidelines for project quality management and the references through which this document was issued, and accordingly we will clarify the dimensions of the fourth requirement, the project management quality system as follows:-

(4-1) Context and project characteristics

(4-1-1) General: a general context for quality management specific to the beneficiary organization, in which the project organization must work in order to avoid problems as a result of the difference in quality systems between the two parties (ISO 10006:2017).

(4-1-2) Organizations: This section of this specification clarifies that the project organization that is tasked with establishing it, the beneficiary organization and the funding organization, where the roles, responsibilities and

authorities between the organization of all concerned parties must be clarified and maintained as documented information (ISO 10006:2017).

(4-1-3) Phases / processes in the project: The term phases differs from the term operations in project management - the project can be divided into interconnected phases to monitor and achieve objectives and assess related risks, and the phases of the project are divided into a number of activities such as development and termination. As for the project processes They are the necessary processes for project management and necessary to complete the project (ISO 10006:2017).

(4-1-4) Project management processes: These include planning, organizing, controlling and taking corrective measures to achieve project objectives in accordance with the continuous improvement method (ISO 10006:2017).

(4-2) Principles of Quality Management: They are the foundations for quality management systems for each organization or project on which the project quality management guidelines are based and include (customer focus - leadership - employee engagement - management approach - continuous improvement - decision making - relationship management) (ISO 10006) :2017).

(4-3) Project management quality processes: The project process management must be within the quality management system to achieve the goals and the project organization works within the beneficiary organization and there is an alignment of the quality management system of the two organizations.

There will be control over external parties in order to ensure implementation in accordance with the context of the quality management system (ISO 10006:2017).

(4-4) Project Quality Plan: It is necessary to document the project's quality management system and refer to it in the project quality plan with identifying the resources needed to achieve quality and its objectives and refer to them when planning by management. necessary to treat it in order to reduce its consequences (ISO 10006:2017).

Sixth: The benefits of the quality management system in projects

The quality management system in projects is a specification among a group of international standards (quality management) and uses the methodology (plan - do - check - implement) and this specification achieves benefits, including: - 1- Delivery of the project on time through proper planning for each stage of the project 2- Reducing what is surprising when implementing the project's work 3- Improving the satisfaction of all parties by providing the service in a timely manner (Kristinsdottr and Moller; 2014: 192) And (Weaver & Patrick: 2016:3) believes that there are benefits at the level of the organization implementing the project, including:

1. It helps in transferring knowledge and experiences between leading and modern organizations.
2. Improved project delivery process
3. Obtaining tenders more efficiently and effectively by submitting more realistic offers
4. The decision-making process is more transparent for all administrative levels through effective communication between them.

The third topic: the practical side

A checklist was relied on for the purpose of knowing the extent to which the requirements of the specification (ISO 10006: 2017) could be applied in the project (Construction of the Hawally Road Connecting Concrete Bridge and Floating Bridge and Paving Streets in Dhuluiya). The weighted arithmetic, conformity ratio and gap ratio for each specification item. Below is a detailed explanation of each specification item:

Fourth requirement:

project management quality systems:

A- Item (context and characteristics of the project)

The results indicate that the context and project characteristics item had an arithmetic mean (5.43) and it is close (fully applied, fully documented) with a matching ratio of 90% and that the size of the gap is 10% and this indicates that the research sample obtained (18) points through three paragraphs (an organization operates The project and the beneficiary organization (Dhuluiya Municipality Directorate) are in the same context as the project quality systems when starting the project - Documentation of responsibilities and powers between the Directorate of the Municipality of Dhuluiya and the implementing agency of the project - division of work in the form of sequential activities) and also obtained (20) points through four paragraphs (identify Project quality management processes - internal and external issues affect the project's ability to achieve results - periodically preparing reports on project implementation - preparing reports by management on the basis of which diagnostic measures are taken.

Table (4) Measuring the context and project characteristics in the Dhuluiya Municipality

Context and project characteristics	Totally Applied Fully Documented	Totally Applied Partially Documented	Totally Applied Not Documented	Partially applied fully documented	Partially Applied Partially Documented	Partially Applied Undocumented	Applied Not documented NOT
	6	5	4	3	2	1	0
The project organization and the beneficiary organization (Dhuluiya Municipality Directorate) work in the same context of project quality systems when starting the project	*						
Define project quality management processes		*					
Documenting the responsibilities and powers between the Dhuluiya Municipality Directorate and the project implementing agency	*						
Division of work into sequential activities	*						
Internal and external issues affect the project's ability to achieve results		*					
Preparing reports on the implementation of the project periodically		*					
Preparing reports by the administration on the basis of which diagnostic measures are taken		*					
weights	6	5	4	3	2	1	0
Repetition	3	4	0	0	0	0	0
The result	18	20					
Weighted arithmetic mean	$5.428 = 7 \div 38$						
Match extent percentage	$0.90 = 6 \div 5.428$						
Gap size = 1- Matching percentage	$1 - 0.90 = 0.10$						

Causes of the gap

Failure to correctly define project quality management processes and the impact of internal issues such as lack of resources or personnel and external economic and political conditions on the project from achieving results, as well as failure to prepare reports by management and on the implementation of work.

improvement mechanism

Project quality management processes are better defined by quality professionals within the organizational structure. Take preventive measures against the risks of the internal and external environment in order to confront them when

they occur and prepare periodic reports on the implementation of the work by the executive officer and send them to the administration for study and preparation of reports to take diagnostic measures.

B- Item (Quality Management Principles)

The results indicate that the quality management principles clause of the main clause of the project management quality system of the international standard (ISO 10006: 2017) has an arithmetic mean (4.714), which is close (fully applied and partially documented) with a matching rate of approximately 79% and the size of the gap is 21% and this It indicates that the research sample obtained (6) points related to the Directorate of Dhuluiya Municipality seeking continuous improvement in its operations according to the specified time and available resources. It also obtained (15) points through three paragraphs (meeting the needs and requirements of stakeholders by the project organization - assessing progress according to Timetable - evaluation of the project goals according to the specific goals) and also obtained (12) points through three paragraphs (people’s participation through the exchange of information between all parties benefiting from the project - the use of previous experiences in new projects based on what was previously documented - evaluation The efficiency of project operations through a benchmarking comparison.

Table (5) measuring the principles of quality management in the Dhuluiya municipality directorate

principles of quality management	Totally Applied Fully Documented	Totally Applied Partially Documented	Totally Applied Not Documented	Partially applied fully documented	Partially Applied Partially Documented	Partially Applied Undocumented	Applied Not documented NOT
	6	5	4	3	2	1	0
Meeting the needs and requirements of stakeholders by the project organization		*					
Participation of people through the exchange of information between all parties benefiting from the project			*				
Using previous experiences in new projects based on what has been previously documented			*				
Evaluate the efficiency of project operations by making a benchmarking			*				
Dhuluiya Municipality seeks to continuously improve its operations according to the specified time and available resources	*						
Assessment of progress according to the specified schedule (work progress schedule)		*					
Evaluate the performance of the project according to the previously defined objectives		*					

weights	6	5	4	3	2	1	0
Repetition	1	3	3	0	0	0	0
The result	6	15	12				
Weighted arithmetic mean	$33 \div 7 = 4.714$						
Match extent percentage	$4.714 \div 6 = 0.785$						
Gap size = 1- Matching percentage	$1 - 0.785 = 0.215$						

Causes of the gap

The lack of people's participation in exchanging information, the failure to use previously documented experiences, the lack of benchmarking of project operations, poorly meeting the needs of stakeholders, and ignoring the work progress schedule and the specific objectives of the project.

improvement mechanism

Active participation of all project beneficiaries and the use of previously documented experiences in future projects with continuous benchmarking for the purpose of evaluating the efficiency of operations and working to know the needs and desires of stakeholders in order to meet their requirements and attention to the work progress schedule to know the time required for each activity and to evaluate the progress of work according to (Work progress schedule) as well as paying attention to the performance of the project in order to achieve the objectives.

c- Item (Project Management Quality Operations)

The results indicate that the project management quality process item of the main item, the project management quality system of the international standard (ISO 10006: 2017) has an arithmetic mean (5.142) and it is close (fully applied and partially documented) with a matching rate of approximately 86%, i.e., the size of the gap is 14% This indicates that the research sample obtained (12) points through two paragraphs (determining the requirements of the quality management system to ensure that the project operations are able to deal effectively and with high efficiency - the Dhuluiya Municipality Directorate monitors the work carried out by an external party) and obtained (20) Point through four paragraphs (Formulation of quality management in the project in accordance with the quality management system followed in the Directorate of Dhuluiya Municipality - Improving the satisfaction of stakeholders by providing the right and timely service - Dhuluiya Municipality Directorate forces the external parties to abide by the quality system followed - Dhuluiya Municipality Directorate requests Documented reports from the external party (the company executing the work) to ensure continuous improvement) and also obtained (4) points related to the management of project operations within the quality management system in order to achieve the objectives.

Table (6) Measurement of project management quality processes in Dhuluiya Municipality

Project management quality processes	Totally Applied Fully Documented	Totally Applied Partially Documented	Totally Applied Not Documented	Partially applied fully documented	Partially Applied Partially Documented	Partially Applied Undocumented	Applied Not documented NOT
	6	5	4	3	2	1	0
Formulation of quality management in the project according to the quality management system used in the Dhuluiya municipality directorate		*					
Managing project operations within the quality management system in order to			*				

achieve objectives							
Determining the requirements of the quality management system to ensure that project operations are able to deal effectively and with high efficiency							
The Directorate of the Municipality of Dhuluiya monitors the actions of an external party	*						
Improving stakeholder satisfaction by providing the right and timely service	*	*					
The Dhuluiya Municipality Directorate forces external parties to abide by the quality system followed.		*					
Dhuluiya Municipality requires documented reports from the external party (the company executing the work) to ensure continuous improvement		*					
weights	6	5	4	3	2	1	0
Repetition	2	4	1	0	0	0	0
The result	12	20	4				
Weighted arithmetic mean	$36 \div 7 = 5.142$						
Match extent percentage	$5.142 \div 6 = 0.857$						
Gap size = 1- Matching percentage	$1 - 0.857 = 0.143$						

Causes of the gap

The project quality operations department works poorly within the quality system and the executing company did not follow the quality approach in the Dhuluiya municipality directorate, as well as the delay in providing service and the commitment of external parties to the quality system is weak and the lack of documentation of reports.

improvement mechanism

The management of quality operations in the project must work within the quality system, which improves the quality of the outputs, and the company executing the project should follow the same quality system in the donor organization to work with advance planning to provide the service in a timely manner, which is determined in the work progress schedule and take legal action against external parties when Failure to provide documented reports with the aim of ensuring continuous improvement and thus achieving project objectives.

D - Item (Project Quality Plan)

The results indicate that the project's quality plan item from the main item, the project management quality system from the international standard (ISO 10006: 2017) has an arithmetic mean (4.571), which is close (fully applied and partially documented) with a matching rate of approximately 76%, i.e. the size of the gap is 24%, and this It indicates that the research sample obtained (6) points related to assessing risks periodically, and obtained (10) points through two paragraphs, defining a plan for the quality of activities and resources necessary to achieve the objectives of the project and documenting all risks in order to exclude them in the future, as well as obtaining (16) points from During the following four paragraphs (a set of risk management plans are available to challenge it at all stages of work - Documenting and maintaining the project quality management system for reference in the project quality plan - Continuously evaluating suppliers in order to exclude the bad ones - Identifying risks, including cost, time and environmental risks).

Table (7) Measurement of the project quality plan in the Dhuluiya Municipality

Project quality plan	Totally Applied Fully Documented	Totally Applied Partially Documented	Totally Applied Not Documented	Partially applied fully documented	Partially Applied Partially Documented	Partially Applied Undocumented	Applied Not documented NOT
	6	5	4	3	2	1	0
A set of risk management plans are available to challenge it at all stages of work			*				
Documenting and maintaining the project quality management system for reference in the project quality plan			*				
Determining the quality plan of the activities and resources needed to achieve the project objectives		*					
Continuously evaluate suppliers in order to exclude bad ones			*				
Identify risks, including cost, time and environmental risks			*				
Documenting all risks in order to exclude them in the future		*					
Regularly assess risks	*						
weights	6	5	4	3	2	1	0
Repetition	1	2	4	0	0	0	0
The result	6	10	16				
Weighted arithmetic mean	$32 \div 7 = 4.571$						
Match extent percentage	$4.571 \div 6 = 0.761$						
Gap size = 1- Matching percentage	$1 - 0.761 = 0.239$						

Causes of the gap

Failure to provide plans to face the risk, not documenting the quality management system, with the presence of bad suppliers, and exposing the project to time and cost risks, while ignoring the activities' quality plan and not documenting the risks.

improvement mechanism

Defining risk management plans and providing them at all stages of work to confront and challenge the risk as well as documenting the project quality management system for the purpose of benefiting from it in future projects and monitoring the suppliers to ensure the provision of what is required for work in a timely manner and excluding the bad ones from them and determining the procedures to confront the risks of cost and time with attention to the quality plan of activities Documentation Risks carefully for the purpose of avoiding them in the future. Through what was stated in Tables (4, 5, 6, 7) we summarize the evaluation according to the terms of the international standard (ISO 10006:2017), specifically the project management quality system through the application rate, percentage, and gap size, as shown in the following table :

Table (8) Summary of the evaluation of the organization in question

items	gap ratio	Percentage of commitment rate	Percentage rate of application
Context and project characteristics	0.10	0.90	5.428
Principles of quality management Project	0.215	0.785	4.714
management Project processes	0.143	0.857	5.142
project quality plan	0.239	0.761	4.571
The overall rate of application of the standard	0.174	0.825	4.96

Through the overall rate of application of the specification in the table above, it was found that there is a gap, but with a small percentage, between the actual application of the organization in question in the research sample and the requirements of the specification, that is, the requirements of the international standard (ISO 10006:2017) can be applied, specifically the project management quality system..

Fourth topic: conclusions and recommendations

First: the conclusions Through the foregoing, the researcher reached a set of conclusions, the most important of which are:-

1. Project management occupies great importance in the completion of projects as planned by relying on the Project Management Knowledge Guide (PM BOOK).
2. Achieving the project objectives through the quality of project management according to the international standard (ISO 10006:2017).
3. The specification contributes to the transfer of knowledge and experience between organizations in terms of project management
4. Context and project characteristics within the project management quality item, a percentage of the compliance rate with the specification has been achieved by 90%, i.e. (0.90), and this percentage is close to (fully implemented and fully documented), which produces a gap between the context requirements and project characteristics and the actual reality by an amount of 10% i.e. 0.10) and this indicates that the above specification item is well applied.
5. The item "Quality Management Principles Requirements" item within the Project Management Quality item achieved a percentage of the compliance rate with the specification (0.785), and this ratio is close to (fully applied and partially documented), which results in a gap between the principles of quality management and the actual reality by an amount of (0.215), and this indicates To apply the item of the specification above well with a slight negligence in the participation of external parties and documentation of efficiency.
6. The item of project management quality processes appeared within the item of project management quality, which achieved a percentage of the compliance rate with the specification (0.857), and this ratio is close to (fully applied and partially documented), which produces a gap between the project management quality processes and the actual reality by an amount of (0.143).
7. It turns out that the project quality plan within the project management quality item achieved a percentage of the compliance rate with the specification (0.761), and this percentage is close to (fully implemented and partially

documented), which results in a gap between the project quality plan and the actual reality by an amount of (0.143).

8. The percentage of the compliance rate with the specification through the evaluation summary is (0.825), and the gap between the project management quality requirements and the actual reality is approximately (0.174) (fully applied, partially documented)

Second: suggestions Through the foregoing, the researcher presented a set of recommendations, including:

1. That government departments in general and the Directorate of the Municipality of Dhuluiya in particular seek to obtain the international standard (ISO 10006:2017) for the purpose of applying it in future projects.
2. Creation of a Quality Management Department in the Directorate of Dhuluiya Municipality due to the lack of this department in its organizational structure.
3. Reviewing the international standard (ISO 10006:2017) by the supervisors of the implementation of the project to know the strengths and weaknesses in order to evaluate the strengths and address and strengthen the weaknesses.
4. Employing a staff specialized in quality management in companies seeking to obtain employment from government organizations
5. Companies obtaining this specification and other international specifications for project management from the International ISO is a condition for obtaining projects, which provides the opportunity for them to complete the work with the lowest level of risks in planning and implementing the work because it focuses on continuous improvement

REFERENCE

1. Abu Abdulaziz, 2015: The nature and importance of the project evaluation process - Human Resources Forum <https://www.startimes.com>.
2. Al-Banna, Muhammad, 2011: Evaluating projects, scientific foundations and practical applications - King Abdulaziz University - Saudi Arabia.
3. Al-Maghrabi, Mohamed Al-Fateh Mahmoud Bashir 2017: Project Evaluation Department - Al-Asriya Library for Publishing and Distribution - Mansoura - Al-Mashayah Al-Sofya - Al-Maamoura Tower - next to Marshal Al-Jazira Hotel - first edition. The Egyptian Arabic Republic
4. Al-Mawashi, Zainab Hussein Hadi: 2016 "The role of stylistics (CPM / PERT) in enhancing the performance of construction projects" Master's thesis submitted to the College of Administration and Economics / University of Baghdad - Iraq.
5. Al-Obaidi, Mahmoud and Al-Fadl, Moayad 2010 Project Management (Quantitative Approach) Amman Al-Warraaq Publishing and Distribution Establishment.
6. Al-Tai, Youssef, Al-Ajili, Muhammad Assi, Al-Hakim, Laith Ali: 2010, Quality Management Systems in Production and Service Organizations - Arabic Edition - Al-Yazuri Scientific Publishing and Distribution House - Amman - Jordan.
7. International standard , ISO 10006 :2017 , (" Quality management - Guidelines for quality management in projects").
8. Ismail, Mohamed Ahmed, 2010: Objectives of Project Evaluation - The Arab Forum for Human Resources Management.
9. Kristinsdottr, Lara Kristin & moller , 2014 ; Maximizing the Benefits of ISO 21500 Implementation - International Journal of Business and Social Science- August 2014 USA.
10. mandarin; Ahmed Talal Ahmed, 2018, Availability of the requirements of the project management quality system, a case study in the Building Engineering Contracting Company - Mosul (Rafidain Development Journal, Volume 37 - Issue 120) Iraq - Mosul University / College of Administration and Economics.
11. Muhammad, Ali Abdul-Hussein: 2017, the possibility of applying the project management quality system according to the standard specification (ISO 10006:2003) Applied research in the Department of Baghdad Sewage - University of Baghdad - College of Administration and Economics - Department of Business Administration - Iraq
12. PMBOK , 2008 ; A Guide to the Project Management Body of Knowledge.
13. PMBOK , 2017; A Guide to the Project Management Body of Knowledge.

14. Roberts, Alexander & Wallace, William - Project Management - 2008 - First published in Great Britain in 2002.
15. The Arab Entrepreneur, 2022: How to evaluate the project <https://the-arabic-entrepreneur.com>
16. Weaver, Patrick ; 2016 :Towards an International Standard for Project Management WGI Convener - Australian Delegation to ISO/PC236 Representing Standards Australia.
17. Zokar, Iyad: 2018 Project Management from the publications of the Syrian Virtual University.....