Indonesian Journal of Public Policy Review

Vol. 27 No. 1 (2026): January
DOI: 10.21070/ijppr.v27i1.1487

ISSN 2598-9901 (ONLINE)

IJPPR

INDONESIAN JOURNAL OF PUBLIC POLICY REVIEW

UMSIDA
DARI SINI PENCERAHAN BERSEMI

ISSN 2598-9901 (online), https://ijppr.umsida.ac.id, published by Universitas Muhammadiyah Sidoarjo

Indonesian Journal of Public Policy Review
Vol. 27 No. 1 (2026): January
DOI: 10.21070/ijppr.v27i1.1487

Table Of Contents

Indonesian Journal of Public Policy Review
Vol. 27 No. 1 (2026): January
DOI: 10.21070/ijppr.v27i1.1487

Originality Statement

The author[s] declare that this article is their own work and to the best of their knowledge it contains no materials previously published or written by another person, or substantial proportions of material which have been accepted for the published of any other published materials, except where due acknowledgement is made in the article. Any contribution made to the research by others, with whom author[s] have work, is explicitly acknowledged in the article.

Conflict of Interest Statement

The author[s] declare that this article was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Copyright Statement

Indonesian Journal of Public Policy Review
Vol. 27 No. 1 (2026): January
DOI: 10.21070/ijppr.v27i1.1487

EDITORIAL TEAM

Indonesian Journal of Public Policy Review
Vol. 27 No. 1 (2026): January
DOI: 10.21070/ijppr.v27i1.1487

Article information

Check this article update (crossmark)

Check this article impact (*)

Save this article to Mendeley

(*) Time for indexing process is various, depends on indexing database platform

Indonesian Journal of Public Policy Review
Vol. 27 No. 1 (2026): January
DOI: 10.21070/ijppr.v27i1.1487

The Role of Total Quality Management Strategies in Resource Sustainability in Strategic Projects: An Analytical Study of the Opinions of a Sample of Employees at the Kufa Cement Plant: Peran Strategi Manajemen Mutu Total dalam Keberlanjutan Sumber Daya pada Proyek-Proyek Strategis: Studi Analitis terhadap Pendapat Sebagian Karyawan di Pabrik Semen Kufa

Muntaha Manate Hashim, muntaha.m.hashim@huciraq.edu.iq (*)
Al-Hussain University College, Iraq

(*) Corresponding author

Abstract

General Background: Total Quality Management (TQM) has evolved into a strategic approach for improving organizational processes and long-term sustainability in competitive environments. **Specific Background:** In industrial settings, integrating TQM strategies into strategic projects is increasingly associated with efficient resource utilization and sustainability outcomes. **Knowledge Gap:** However, limited empirical evidence exists on how specific TQM dimensions contribute to resource sustainability within strategic project contexts, particularly in developing economies. **Aims:** This study examines the relationship between TQM strategies and resource sustainability in strategic projects at the Kufa Cement Plant. **Results:** Using data from 135 employees and structural equation modeling, the findings reveal a significant positive relationship between TQM strategies and resource sustainability, with leadership, supplier development, and continuous improvement showing strong contributions. **Novelty:** The study introduces an integrated model linking TQM dimensions with sustainability outcomes in an industrial project setting. **Implications:** The results provide practical insights for organizations seeking to reduce waste, optimize resources, and support long-term sustainability through strategic quality management practices.

Keywords: Total Quality Management, Resource Sustainability, Strategic Projects, Continuous Improvement, Industrial Management

Key Findings Highlights

1. Leadership-driven quality practices show the strongest contribution to sustainable resource utilization
2. Supplier collaboration supports long-term operational stability and material efficiency
3. Continuous process refinement reduces waste and sustains production cycles

Published date: 2026-03-28

Vol. 27 No. 1 (2026): January
DOI: 10.21070/ijppr.v27i1.1487

Introduction

The face of today's business environment has been transformed -- and by no small stretch -- due to the nature of global competition. This requires the manufacturing and service industries to operate within current management paradigms, which cannot be reduced to classical organisational forms. As a result, TQM has evolved into a management philosophy and strategic tool for organizational success. TQM is less about products and more about an "organizational culture" that seeks to improve overall processes and activities across all levels of the organization—from production to customers. The value will be different from what the customer is expecting, and also that much more.

Theoretical background: A theory in the quality management literature divides the organisational structure of any successful project. The source of process improvement is on target, leading to zero defects and higher efficiency in repetitive processes. At the same time, the origin of supplier development lies in greener, more flexible supply chains that set high store by strategic partnerships. Leadership from quality is, moreover, the necessary channel through which to determine a quality policy and develop quality criteria and criteria for managing knowledge processes that underpin the value-actualization experience in terms of logistical capability. This, in fact, cuts its own waste and improves long-term competitiveness. Besides quality attention, sustainability in strategic project management has also been an indispensable demand for an organization's survival in a world of increasing environmental, social, and economic difficulties. The success of a project is no longer measured just in time, costs or scope, but also in its capability to keep up with the necessary "triple balance" that combines: The Fragile Relationship between Environment and Commitment – this can represent through emissions reduction projects or waste recycling Social Equilibrium on fair treatment – fairness for employees, equal opportunities Economic Sustainability which ensures capacity for continuation (avoiding bankruptcy) and profitability without exhausting resources intended for future generations.

The relationships between TQM and sustainability resources are cited as success factors for organisations today. These kinds of systems and this approach to leadership also result in more sustainable performance with lower environmental and financial costs. Hence, this research will help clarify these claims at the Kufa Cement Plant through a field study to explore how and to what extent the dimensions of TQM lead to the sustainability of strategic projects. It is also intended to provide a scientific and practical decision-making framework, enabling management staff to base decisions on reliable statistical information, thereby increasing an organization's resilience and helping address future challenges. The article is divided into four parts: methodology, the theoretical part, the empirical part, and, finally, conclusions, including proposals derived from statistical analyses.

1. Research Methodology

1. 1 Research Problem:

The identified knowledge and application gap concerns how TQM strategies can be linked to sustainability demands in strategic projects. Nowadays, the concept is still not fully able to articulate business models in which CI and social/environmental considerations are part of a single whole. In that sense, this is a progressive journey from productivity-centered traditional quality to a "sustainable" quality understanding, and involves resource continuity and long-term economic sustainability for the complex industrial Kufa Cement Plant. This leads to a fundamental question: whether and how total quality management (TQM) measures are seen as an interconnected system that promotes sustainability in strategic projects.

1.2 Second: Research Objectives:

The objectives are as follows:

1. To identify the level of awareness among the employees of the studied laboratory regarding the two main study variables.
2. To reveal the level of influence between total quality management strategies and resource sustainability in strategic projects, both at the overall level and at the level of individual dimensions.
3. To present a set of recommendations that contribute to the laboratory's success in relation to these two variables.

1. 3 Research Significance:

The significance of this study is as follows.

- Theoretical (Academic) Significance: This study is valuable to academics because it advances the administrative literature by introducing a model linking two significant constructs: TQM strategies and project sustainability. It attempts to address a research gap in Arab nations regarding how operational excellence can be turned into a system enabler for sustainability. The study contributes to the development of a way of thinking that enables understanding and explanation of how dimensions such as supplier development, supportive leadership, etc., can sustain environmental, social, and economic intentions in an integrated manner.

- Practical implications: The study can provide useful recommendations for decision-makers at Kufa Cement Plant to enhance performance and minimize waste, in accordance with international legislation. An analysis of employee data provides insights into the strengths and weaknesses related to the plant's strategic orientation, which is necessary for the

Vol. 27 No. 1 (2026): January
DOI: 10.21070/ijppr.v27i1.1487

proper evolution of sustainable competitive advantage. In addition, the work provides a solid scientific measure that other business communities can apply to assess their adherence to the principles of quality and sustainability in their strategic projects.

1.4 Hypothetical model

Figure 1. Figure (1) Hypothetical Research Model Source: Prepared by the researcher based on scientific literature.

1.5 Research Hypotheses:

1. (H1-1) There is a relationship between the variable, Continuous Improvement Strategy, and Resource Sustainability in strategic projects.

2. (H1-2) There is a relationship between the variable, Supplier Development Strategy, and Resource Sustainability in strategic projects.

3. (H1-3) There is a relationship between the variable, Quality-Supporting Leadership Strategy, and Resource Sustainability in strategic projects.

4. (H1-4) There is a relationship between the variable, Operations Management Strategy, and Resource Sustainability in strategic projects.

1.6 An Overview of the Kufa Cement Plant

It is one of the largest and oldest cement plants in Iraq, belonging to the Iraqi Cement Company. The plant includes four wet-process cement kilns. Each kiln has a production capacity of approximately 1400 tons per day. The factory runs around the clock, as it is a high-volume, high-speed industry. The factory has about 2000 permanent (technicians, assistants, engineers, and others) and contract/ daily wage workers spread among the following:

- (300 engineers, 200 administrators, 1000 technicians, and other staff: 500).
- It is a 24-hour factory, operating roughly three shifts.
- The plant has approximately 30 production, technical, and administrative units. Every department is structured with the head of the group, their assistant, and several people under them.
- Each department manages it and consists of several divisions and units.

- A department within the factory is responsible for completing tasks according to a 24-hour work schedule.
- There are meal managers comprised of engineers, technicians, and administrators.

1.7 The Study Population and Sample

Study population: The study population should be selected to align with the investigator's objectives. To test the hypotheses in an Iraqi context, the researcher selected the industrial sector and, more specifically, the Kufa Cement Plant, which comprises the entire complex, as it represents the main part of that sector in Iraq. The company and plant headquarters senior management, including decision-makers, departmental managers, division managers, unit managers, and shift leaders, were interviewed. Sampling: The study used purposive sampling, which was appropriate for the study's design. (135) The decision-makers (General manager, plant manager, head of departments, heads of divisions, and unit supervisor) who were selected from Kufa Cement Plant and the company headquarters. This selection was based on a sample size design using pre-established tables (Margen & Krjera, 1970, p. 608), which exceeds the required number of (132) individuals, given the study population of (200) decision-makers.

Therefore, 150 questionnaires were distributed, and 145 questionnaires were returned, representing (97%), while 10 extreme forms were excluded, as shown in the table below:

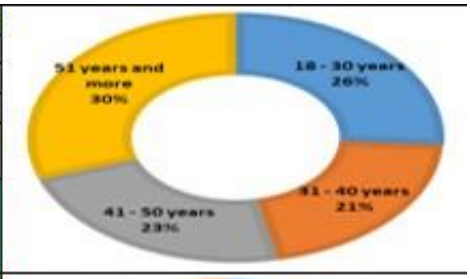
Indonesian Journal of Public Policy Review
Vol. 27 No. 1 (2026): January
DOI: 10.21070/ijppr.v27i1.1487

required sample	Distributed questionnaires	returned questionnaires	%	Non-returned questionnaires	%	Invalid questionnaires	Excluded from extreme data	The righteous one
132	150	145	97%	5	3%	5	5	135

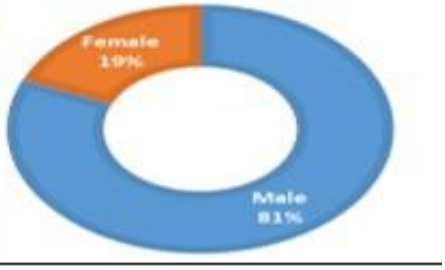
Table 1. Table (1) Questionnaire Distribution
"Source: Prepared by the researcher."

"The study sample exhibited diverse characteristics, both personal and professional, including age, gender, educational qualifications, and years of service, as detailed in the following table.":

the age	repetition	%
18 - 30 years	35	25.93%
31 - 40 years	28	20.74%
41 - 50 years	31	22.96%
51 years and more	41	30.37%
Total	135	100



Gender	repetition	%
Male	110	81.48%
Female	25	18.52%
Total	135	100



Educational qualification	repetition	%
Intermediate	11	8%
Preparatory	14	10%
Bachelor's	87	64%
Other	23	17%
Total	135	100

Number of years of experience	repetition	%
5 years or less	24	17.78%
6 to 10 years	17	12.59%
11 to 15 years	25	18.52%
16 to 20 years	31	22.96%
20 and more	38	28.15%
Total	135	100

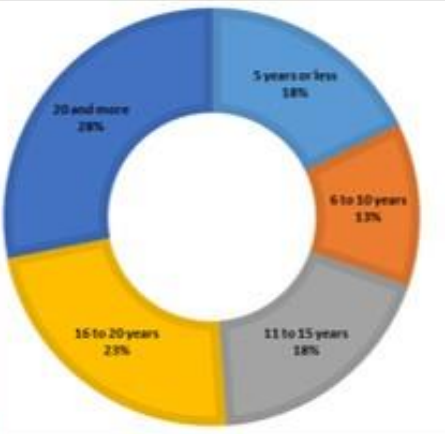


Figure 2. Table 2: Personal Information of the Study Sampl

Vol. 27 No. 1 (2026): January
DOI: 10.21070/ijppr.v27i1.1487

Source: Researcher based on field visits

The following is evident from the table above:

- Distribution by Age Group

The age distribution is most equitable, with the 51 and above year group comprising 30.37% in first place, and the 18-30 year group at second highest with 25.93%. It shows a mix of experience from older groups and the new blood of younger ones, which is essential for transferring knowledge and sustaining plant strategic actions.

- Distribution by Gender

The findings showed that the male-to-female ratio was significantly higher: 81.48% versus 18.52%. This divide is explained by the type of work in cement plants, where physical effort and the need to be present at the production line and in field operations, most often performed by men due to the industrial character of the work, are necessary.

- Distribution by Educational Qualification

Results showed that 64% of the sample have a bachelor's degree, indicating a high level of education and greater baseline knowledge in the workforce. It increases the lab's capacity to absorb and operationalize total quality management principles and sustainable modern practices.

- Years of Experience Distribution

The proportion of subjects in the >20 years category (28.15%) is higher than in the 16-20 years category (22.96%). This implies that more than half of the sample has more than 16 years of site application experience, which provides the organisation with important operational stability and a strong capacity for crisis management and strategic project management, based on a technical development stock.

2. Theoretical Aspects of the Research

2- 1 - Total Quality Management Strategies

2- 1 -1- The Concept of Total Quality Management Strategies

Jimoh et al. (2019:164) define Total Quality Management (TQM) strategies as a set of processes, activities, and rules that an organization has embraced to drive continuous improvement in the quality of its operating processes and systems. This is achieved through an emphasis on kaizen, supplier development, and top management commitment to TQM. The aim is to ensure quality, reduce costs and waste in project operations, and generate long-term sustainability and competitiveness of the projects. According to Harzallah (2014:4), TQM is a strategy "based on a comprehensive management philosophy that strives for continuous improvement of all functions. Only by implementing TQM completely from the source of resources to the after-service, under the strategic objective with emphasis on project operation and comprehensive promotion of operation efficiency within all organizational levels, can it be realized. According to Brajogo and Amrik (2006:37), TQM strategies entail broad-based organizational commitment and encouragement aimed at integrating quality into an organization's strategic vision. This allows operational processes to constantly evolve and develop, deliver high-quality performance, improve the quality and effectiveness of work, and satisfy your customers. Sustainable long-term results will be achieved by providing a) customer-centric focus: the way organizations can work to win market share is by offering better/custom products, capturing more customers, and b) process-centric approach; project management needs to ensure that they are working smartly towards continuous improvement of processes, which aim at eliminating defects and waste.

TQM Total Quality Management (TQM) is a philosophy that is about making organization-wide improvements in the processes of an organization and administration to satisfy all customers (internal and external, primary and secondary), both current and future, as well as suppliers, partners, shareholders, and other constituents by meeting their needs and fulfilling their desires. This is accomplished by embracing the philosophies of continual improvement, intelligent process control, and waste reduction/recycling to help businesses manage resources efficiently and effectively. This promotes sustainable, lasting projects."

2- 1 -2- Dimensions of Total Quality Management Strategies

Zehir (2023:16) identifies Total Quality Management strategies as:

1. **Continuous improvement strategy:** This is a dynamic process that adds value to how an organization's project operations are run through ongoing best-practice research and development, waste reduction, and increased operational efficiency. The target for all projects should be zero defects in process and productivity, resulting in increased satisfaction and expectations from the customer(s) as well as stakeholders. Zero defect concept has many benefits such as: getting high quality of products and services, improve mentsand savings in repair and rework costs, increase productivity which leads to competitive product prices while making profit because production cost be comes cheaper (Buckland, 2018:1). Continuous improvements is defined by Trif (2024:364) as a philosophy that aims at the continuing improvement of all aspects of the process- related to turning inputs into outputs- and generating returns on investment for an organisation. This involves making positive changes to how processes are performed, achieving exceptional performance, clearly and specifically describing the project completion process or workflow,

Vol. 27 No. 1 (2026): January
DOI: 10.21070/ijppr.v27i1.1487

eliminating activities that do not add value or contribute to overall project performance, cutting quality costs, and delivering projects free of defects.

2. **Supplier development strategy:** The human factor, critical for the trajectory of innovation, is achieved through an administrative approach and activities intended to add value and support in supply networks, strengthening their ability and performance, through collaborative processes: technical assistance - including training, qualification. It is also about creating long-term relationships for higher-quality, greater depth. It is this very approach that lends to grounding suppliers as strategic partners" who can meet the needs and demands of organizations so that projects are sufficiently supported (Zhang, 2024:2). Silanpa(2015:5) asserts that competitive pressure can be realized through the benefits of supplier development. As far as competitive pressure is concerned, having multiple suppliers is relatively more important, as it encourages other suppliers to improve quality and competitors' performance. Assessment and certification processes ensure a supplier's performance aligns with an organization's desired level. This drives suppliers to continually improve performance. Incentives: To encourage suppliers' development, the buying company can motivate them by providing incentives, for example, linked to performance or capability development (e.g., cost savings, increased regard for volume, and future business).
3. **Leadership strategy that supports quality:** Leadership should be a central factor whenever the company plans to achieve major strategic goals. The most important skill a leader must possess is planning, which helps make quality an integral part of the organisation. Leadership is vital in TQM (Total Quality Management) to provide vision, values, goals, structures, systems, and relationships to deliver customer satisfaction and build stable relationships. Quality related issues can be incorporated at top management through the quality planning which will make it possible to establish objectives for improving quality (Djordjevic et al., 2020:2). Leadership is also a critical factor in quality improvement 4 and serves to encourage projects focus on potential improvements that reflect success, demonstrate commitment to quality principles and practices through accomplishment, as well as establish benchmarks and standards that will guide efforts to document the worth of these gain-seeking activities. Hertz (2007:24).
4. **Operations management strategy:**Operations management is fundamental to organizational performance and focuses on planning and managing the organization's daily activities to optimize resource use while meeting strategic objectives. The degree that associated with this course include operations management, knew as Production Management, from production planning and inventory control to quality assurance and supply chain management to support all the process of total quality management system (Alam et al, 2024:91). The extensive service organization development of operations management, according to Tornjański (2017:81), it has been due to external factors which have forced managers in the service operation to adapt on change. This change requires adopting better operating strategies, applying the right quality management paradigms, tools, and techniques, and focusing on operational excellence to sustain outstanding project performance. OM has accordingly recently entered a new stage associated with the terms: total allocation, agility, and appropriateness. Total allocation seeks to balance the value-added effectiveness of product allocation with the cost efficiency of mass production. Agile governance is defined as the leveraging of flexible business capabilities and reactivity to constant change to increase operational efficiency and effectiveness.

. 2-2- Sustainability in Strategic Project Management

2-2-1- The Concept

Sustainability in strategic project management, according to Suarez (2024:24), is the practice of planning, monitoring, and supporting such operations, taking into account environmental, economic, and social aspects and implications of a project's resources, processes, outputs, and impacts throughout their life cycle. The informed decision process is intended to deliver stakeholder benefits through a transparent, equitable, and ethical process that engages stakeholders meaningfully. Part of it can also be understood in the terms of the definition of strategic project management sustainability process, which is to set up, implement, and maintain systematic project change in policies, processes, resources, assets, or infrastructure ("Sylvius", 2014:71). This approach takes into account the concepts of sustainability in the project, its results and effects. Key principles include balancing or harmonising social, environmental, and economic interests; balancing short- and long-term perspectives; balancing local and global perspectives; balancing values and ethics; balancing transparency and accountability maximisation; and prioritising revenue over capital use.

Sustainability in Project Mission. Sustainability in strategic projects focuses on the business approach to managing environmental, social, and economic issues while designing and executing all types of project-based work to serve current stakeholder needs. Still, without compromising the opportunity for future generations to meet their own needs (Association, 2025:1). Romero (2018:17) elaborates on sustainability in terms of strategic project management, as the inclusion of a sustainable strategy that seeks long-term values and principles beyond the traditional objectives based on time, cost, and scope. It developed integrated economic, social, and environmental models for all project activities to strengthen organizational resilience and sustainable competitiveness. Sustainability in this context also involves building strong organizational capacities, such as strong working relationships within work teams, support from higher management, and appropriate alignment of organizational structure and culture to ensure that the projects carried out are successful.

According to Silvius (2022:3), sustainable strategic project management refers to the planning, monitoring, and control of project delivery and support processes, where environmental, economic, and social aspects are considered in relation to a resource, process, product, or impact throughout its lifecycle. The aim is to secure benefits for stakeholders in a just and moral way through stakeholder participation. With respect to supplier development strategies for strategic performance management, the sustainability perspective is considered within project management and delivery practices: stakeholder identification and engagement, project participation, business case development, project monitoring, identifying and managing risks associated with the project; communication within/through the project; and selecting/organising a team.

ISSN 2598-9901 (online), https://ijppr.umsida.ac.id, published by Universitas Muhammadiyah Sidoarjo

Vol. 27 No. 1 (2026): January
DOI: 10.21070/ijppr.v27i1.1487

2-2-2- Sustainability Dimensions in Strategic Project Management

Orino et al. (2024:1) identify the following dimensions of sustainability in strategic projects:

1. **Environmental responsibility** is described as an effort to demonstrate that news organizations are prepared to contribute to solutions to environmental problems without reference to the individual financial benefits that might also be gained. It is also a consumer commitment to protecting files and promoting environmental quality (Alhamad, 2023:42). According to Al-Bitar (2023:86), it reflects the process of accepting environmentally safe products/technologies that can enhance a company's efforts to address climate change and thereby improve environmental performance. It is a management system component that seeks to integrate environmental initiatives and operations into business processes and project production, supporting and complementing the value an organization can bring to sustainable principles. For the environmental aspect, there will be an emphasis on fostering sustainability in projects through the design of environmentally friendly processes whilst eschewing those that produce environmentally harmful emissions, by exploiting novel technologies that inherently address sustainability requirements.
2. **Social justice** becomes an imperative for the sustainability of project management at the strategic level. It is broader than operational or process-focused notions and reflects an organization's mission to ensure honest and responsible management practices that minimize discrimination for all project participants. Social justice refers to fair and transparent relations with stakeholders, the guarantee of employees' rights, and moral principles in corporate cooperative attitudes. The social justice aspect promotes innovation and competitive advantage when it is systematically integrated in project strategies, even more making the interest of people who are working for a purpose together with them to enable the community's well-being and long-term sustainability (Camilleri, 2017:62). According to Balaceanu (2012:2), social justice as a socio-ethical framework seeks fair opportunities and rights for all employees irrespective of their background and promised to be nondiscriminatory. Social justice concerns the equitable redistribution of wealth and resources to enhance solidarity among members of society and promote economic and social progress.
3. **feasibility:** implies that project management will bear long-term economic benefits by using the resources optimally, increasing profits, and reducing wastes in the course of the project. This is achieved through the application of sustainability innovations, or innovations grounded in sustainability, which ultimately lead to significant positive impacts. Process and product innovations to save natural resources, to deal with utilization of waste material and getting lean in all types of cost, generate a significant amount of financial benefits for projects (Doszhan 2022:42). Perin (2019) states that economic viability sets limits in the project, hindering to achieve results more effectively regarding its outputs and principles of sustainability can guarantee the rational use and effectiveness of resources for organization's duration. Hence, both dimensions are necessary to ensure that projects stay on track and achieve their strategic objectives.

2-3- Linking Variables

2-3-1- The relationship between continuous improvement strategy and the sustainability of strategic project management: Continuous improvement is a cross-sectional support to the sustainability of strategic projects, environmental protection in project operation, and establishing a leadership strategy, which sets up the quality in line with organizational requirements as well as cost reduction and resource efficiency of operation on the sustainability of the project life cycle (Glover. elsif(2015:2). Performance measurements and project management according to Maiden and Inga (2019:2) change constantly in terms of their business models, noting that for the long-term competitive edge, managers need a growing change which will measure sustainable performance as well as welcome innovation, creativity, development, and improvement being seen as total essentials. Sustainability Six Sigma practices drive and advance environmental and social sustainability by reducing waste, optimizing resource use, managing energy, improving operational efficiency, and enhancing workplace conditions.

2-3-2-The relationship between supplier development strategy and the sustainability of strategic project management: Supplier development is a key element in strategic supply chain management that helps sustain the application of Strategic project management. It will hopefully enhance supplier performance or capabilities and address the corporation's essential supply chain needs. In other words, the buyer, as the core organization, is more likely to collaborate with suppliers to gain a competitive advantage, thereby ensuring the project's long-term sustainability. Given the rapidly growing importance of globalisation, outsourcing, and core competency management philosophies, supplier collaboration and continuous improvement are becoming increasingly relevant to environmental, social, and governance (ESG) capabilities. It is done through providing an organisation with environmentally preferable raw materials and supplies, thus attaining a strategic and competitive edge for the organisation and its supply chain (Bai and Joseph, 2016:3). Yawar and Stefan (2020:11) contend that supplier development is also essential in building long-term relationships and enhancing performance concerning project sustainability. These are ways to address opportunistic risks in buyer-supplier relations. This implies that, to establish long-term relationships with suppliers, buyers invest directly, thereby further improving supplier performance and creating a competitive edge for buyers.

2-3-3-The relationship between a quality-supportive leadership strategy and the sustainability of strategic project management: Quality-supportive Leadership is the business philosophy that generates value in the short, mid and long run to internal and external investors of a project applying management techniques which motivate and trigger the principles of quality management (economic, environment and social) (Kerr, 2006:15). Quality-supportive leadership is more than a focus on the long-term (Boske, 2023:5), as well as good ideas for stakeholders, high state-of-the-art products and services, committed skilled employees. Sustainable management leaders have a strong sense of proactiveness and future orientation, which is not only concerned with short-term profit but also with the long-run viability and sustainable growth across all managerial and operational activities and processes. They add that it is the balance of short-term and long-term

Vol. 27 No. 1 (2026): January
DOI: 10.21070/ijppr.v27i1.1487

goals as in the organization, now and in the future, where everyone is involved, elevated, stimulated, inspired, and motivated to be part of the shared responsibility for executing quality efforts to produce performance results consistent with the sustainability principles, which are more efficient in adding value to durability within projects.

2-3-4- The relationship between operations management strategy and the sustainability of strategic project management: Acompany's operational strategy, according to Romero (2018:18), is all the activities that direct the use of resources and operational activities for an organisation achieve its vision and goals, and itresults in a guideline for fostering long-term competitive advantage through planning. Strategic planning is a governance activity that involves formulating decisions that influence the institution's future direction. This process, applied at every level of management and across all types of organizations, is vital to the existence of any organization because it determines how it adjusts to a changing world. Hence, strategy implementation is the process of enacting policies, plans, and practices, as well as transmitting operational or organizational routines that are compatible with the overall strategic objectives (Barney, Morkosh, and Vandenbosch). et al.

3. The Applied Aspect of the Research

3-1- Coding the Study Scale, its (Normal) Distribution, and Scale Reliability

The coding for the study variables and dimensions was clear and adequately specific. It is a compulsory step on the way to processing data and performing statistical analysis in dedicated statistical software (e.g., SPSS or Amos). 26. It is the intention to be able to assign a succinct, distinctive code for each dimension and main variable, so that it is precise and an approach to working on statistical analysis and model interpretation continuously.

The assumption of normality is a basic prerequisite for using several parametric statistical tests and equations, particularly those involving multivariate statistics (e.g., path analysis or structural equation modeling). This distribution is checked by looking at the skewness and kurtosis coefficients. Values around ±1.96 suggest that the sample responses distribution is close to normal and therefore the normality assumption is fulfilled, making the data proper for further statistical evaluations

The variable	The symbol	Dimension	The symbol	Number of questions	Skewness	Kurtosis	Cronbach's alpha coefficient for dimensions	Cronbach's alpha coefficient for variables
Total Quality Strategies	**STQ**	Continuous Improvement Strategy	SF	5	0.262	0.693	0.767	0.697
		Supplier Development Strategy	BF	5	0.533	0.810	0.708	
		Quality-Supporting Leadership Strategy	FP	5	0.730	0.455	0.705	
		Operations Management Strategy	YF	5	0.497	0.539	0.790	
Resource sustainability in strategic projects	**RSP**	Environmental Responsibility	SW	5	0.511	0.755	0.716	0.680
		Social Justice	TS	5	0.408	0.570	0.774	
		Economic Feasibility	WR	5	0.618	0.912	0.740	

Table 2. Table (3) Coding the Study Scale, its (Normal) Distribution, and Scale Reliability “Source: Prepared by the researcher”.

The table here summarizes the results of the preliminary statistical analysis of the study's dimensions and variables. The results from the reliability test reveal a connection among all scale items, with quite high internal consistency values in the total scale (rhototal = 0.840), ranging from 0.705 for the dimension supportive leadership strategy to 0.790 for its operations management strategy. All are within the acceptable threshold of 70%, supporting the reliability and appropriateness of the measurement instrument for analyzing the data.

With respect to the normal distribution, the post-skewness and post-kurtosis statistics across all dimensions are within the acceptable (non-significant) range, indicating that the data are normally distributed. The maximum kurtosis was 0.730, and the skewness was 0.912; both were within ±1.96 of the mean (Table 1). This permits the researcher to use sophisticated parametric statistical techniques, such as SEM.

3-2- Descriptive statistics

This part of the analysis examines the dimensions of each variable, based on the opinions of a group of 135 employees at the Kufa Cement Plant, to identify the research variables. We will use a five-point Likert scale to assess how well the survey sample's opinions are being addressed. The table below shows the respondents' average scores.

Resolution gradations	Arithmetic medians	degree of approval
Agree	**5.00-4.21**	**Very available**
I agree	**4.20-3.41**	**Available**
Neutral	**3.40-2.61**	**Moderate**

ISSN 2598-9901 (online), https://ijppr.umsida.ac.id, published by Universitas Muhammadiyah Sidoarjo

Indonesian Journal of Public Policy Review
Vol. 27 No. 1 (2026): January
DOI: 10.21070/ijppr.v27i1.1487

I do not agree	**2.60-1.81**	**Low**
I don't quite agree	**1.80-1**	**very low**
Hypothetical mean = 15/5 = (3)		**Class length = 5 - 1 = 4/5 = 0.80**

Table (4) Criteria for the Availability of the Study Variables
Akadiri O. P. (2011), Development of a Multi-Criteria Approach for the Selection of Wolver Hampton, U. K.

The differentiation and dimensions were based on obtaining the highest and lowest coefficient of variation, which indicates consistency and homogeneity in the responses of the selected sample members for the main dimensions and variables under study.

3-2-1- Total Quality Strategies

The general findings show that Kufa Cement Plant practices the A to Z of quality system at a high level, with a mean score of 3.443 and an agreement percentage of 68.9%. The standard deviation (0.735) and coefficient of variation (21.3%) indicate considerable convergence of responses in the sample, suggesting a shared perception that quality is the basis for increasing operational system efficiency, cost-effectiveness, and long-term competitiveness in projects.

Results of dimension analyses indicated that;

- Leadership Strategy of Quality Support (1st rank): This factor ranked first among all other factors within the variable, with a mean of 3.654, a standard deviation of 0.635, an agreement rate of 73.10%, and a coefficient of variation of 17.40%. · These results show the positive effect of top management in developing vision and removing obstacles to implementing quality practices. The data would indicate that plant management is "the single most important reason why excellence practices were put in place, and standards emerged to provide clear, fair measures of improvement activities.
- Continuous Improvement Strategy (Second Most): The second-most CI strategy was significant in statistical analysis (M = 3.532, SD = 0.632), with a percent agreement of 70.60% and a coefficient of variation of 17.90%. The lab has been practicing "continuous improvement," and employees have been working toward "ZERO DEFECTS" in operations, which means less rework and greater project economic productivity.
- Operations Management Strategy: third mean rank, with a mean average of 3.367, and a standard deviation of 0.00; recorded percentage agreement was close to the bottom at 67.30%, CV=23.30%. These numbers reflect the organization's priority of rationalizing daily work and the reasonable use of resources. In this case, OM serves as a foundational knowledge area for overall business effectiveness by linking production and inventory activities to the continued provision of value to stakeholders.

- Supplier Development Strategy (Rank 4): The last rank is achieved by the supplier development strategy with a mean of (3.219), standard deviation of (0.888), percentage agreement (64.40%), and a coefficient of variation value equal to(27.60%). Although it is a value last placed, it remains within the expected parameters, so the factory needs to intensify technical cooperation and joint training with the supply networks to ensure raw material quality as a strategic partner in the sustainability of production processes.

Table 5 summarizes the descriptive indicators for the total quality management strategies variable and its dimensions.

Dimensions		Mean	S.D	Agreement percentage	C.V	ranking
1	Continuous Improvement Strategy	*3.532*	0.632	70.60%	17.90%	2
2	Supplier Development Strategy	*3.219*	0.888	64.40%	27.60%	4
3	Quality-Supporting Leadership Strategy	*3.654*	0.635	73.10%	17.40%	1
4	Operations Management Strategy	*3.367*	0.785	67.30%	23.30%	3
Total Quality Strategies		3.443	0.735	%68.9	21.3%	

"Source: A researcher who is using the statistics program SPSS. 27"

3-2-1- Resource sustainability in strategic projects

The statistical results demonstrate that the overall variable (resource sustainability in strategic projects) was highly available and grounded in practice within the researched plant, with an average global score of 3.705 and a coefficient of agreement of 74.1%. The relatively small deviance of 16.8% suggests that those surveyed tend to agree that the plant has, or will, successfully implement policies conducive to the sustainable use of its resources and strategic operations.

The measurement of the dimensions was as follows:

Indonesian Journal of Public Policy Review
Vol. 27 No. 1 (2026): January
DOI: 10.21070/ijppr.v27i1.1487

- Social Justice Dimension (1st Place) This dimension scored highest among the sustainability dimensions, with a mean of 3.825 (SD = 0.663), a concordance percentage of 76.5%, and a coefficient of variation (CV) of 17.3%. These findings are consistent with the argument that Kufa Cement Plant, from which management practices derive social justice and equal opportunity, protects workers' rights, thereby ensuring a conducive working environment and job satisfaction among employees.
- Economic sustainability (second position): The second block proved to be the second most important dimension and also provided equivalent statistical data: mean 3.750, standard deviation 0.548, consensus level 75.0%, and a low C.V of 14.6%. Those are the figures that represent success for the lab in balancing a budget using common sense available to us and avoiding squandering, as the project lifecycle and sustainability management pay for themselves.
- Environmental responsibility (3rd Rank): This context ranked third, with a mean value of 3.541, a standard deviation of 0.662, a consensus rate of 70.8%, and a coefficient of variation of 18.7%. Even though it ranks lower, the results are still very good and show that the laboratory is serious about adopting sustainable practices and innovative technologies to reduce emissions and minimize negative environmental impacts from its operations.

Table (6) "Summary of descriptive indicators for the dimensions of the resource sustainability variable in strategic projects"

Dimensions	Mean	S.D	Agreement percentage	C.V	ranking
Environmental responsibility	3.541	0.662	%70.8	%18.7	3
Social justice	3.825	0.663	%76.5	%17.3	1
Economic viability	3.750	0.548	%75.0	%14.6	2
The resource sustainability variable in strategic projects	3.705	0.624	%74.1	%16.8	

"Source: A researcher who is using the statistics program SPSS. 27"

3-3- Confirmatory factor analysis of the study variables and their dimensions

Confirmatory factor analysis (CFA) is a key step in structural modeling that seeks to confirm the extent to which the actual factor structure of observed variables matches that posited by theory. For the researcher to be confident that the model developed can be used for further testing, they should check the quality-of-fit indicators, i.e., how well and effectively the field data represent the proposed model. Textile Table 7 presents the basic rules for the accepted model quality indicators, including the minimum chi²/degrees of freedom (chi²/df) ratio (which must not exceed the acceptable value) and the goodness-of-fit (GFI) and comparative fit (CFI) indices used to assess model reliability. Lastly, the RMSEA indicates a reduced discrepancy between the model and the data, providing evidence of whether the instrument accurately and reliably measures what it purports to measure.

Table (7) CFA Match Quality

(Indicators)	**(Match quality rule)**
X²/df: The ratio between chi-squared and degrees of freedom	**Less than or equal to 3**
GFI: Good Fit Index	**Greater than or equal to 0.90**
CFI: Comparative Fit Index	**Greater than or equal to 0.95**
X²/df: The ratio between chi-squared and degrees of freedom	**Less than 0.05 or 0.08**

Source: Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). "A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)," 2nd Ed. Thousand Oaks, CA: Sage, p.289.

The results of the confirmatory factor analysis are presented in a table and figure, which indicate that all item subdivisions for their dimensions exceeded the standard value (40 %). If so, we could say that all items fit their designated dimensions in both cases, indicating that the statistical construction was valid. Thus, the model met the criteria for validity and reliability in structural analysis with respect to the study scales, which have 4 independent and 3 dependent factors.

Table (8) Confirmatory factor analysis of study variables

Items	path	The dimension	Estimate	S.E.	C.R.	P	Label
Confirmatory factor analysis of Total Quality Strategies							
SF1	<---	SF	0.90	0.98	11.403	***	Accepted
SF2	<---		0.93	0.95	9.662	***	Accepted
SF3	<---		0.94	0.87	10.878	***	Accepted
SF4	<---		0.90	0.94	10.893	***	Accepted
SF5			0.92	0.95	11.384	***	Accepted
BF1	<---	BF	0.88	0.91	10.203	***	Accepted
BF2	<---		0.81	0.88	11.571	***	Accepted
BF3	<---		0.94	0.98	13.038	***	Accepted
BF4	<---		0.95	0.99	14.584	***	Accepted
BF5	<---		0.96	0.94	14.324	***	Accepted
FP1	<---	FP	0.74	0.67	13.262	***	Accepted
FP2	<---		0.91	0.85	13.403	***	Accepted
FP3	<---		0.89	0.90	9.662	***	Accepted
FP4	<---		0.92	0.91	15.878	***	Accepted
FP5	<---		0.84	0.86	10.893	***	Accepted
YF1		YF	0.90	0.85	11.384	***	Accepted
YF2	<---		0.80	0.75	12.203	***	Accepted
YF3	<---		0.98	0.91	14.571	***	Accepted
YF4	<---		0.82	0.93	12.038	***	Accepted
YF5	<---		0.82	0.85	12.584	***	Accepted
Confirmatory factor analysis of Resource sustainability in strategic projects							

Vol. 27 No. 1 (2026): January
DOI: 10.21070/ijppr.v27i1.1487

SW1	<---	SW	0.72	0.94	11.614	***	Accepted
SW2	<---		0.93	0.98	12.591	***	Accepted
SW3	<---		0.88	0.84	10.829	***	Accepted
SW4	<---		0.91	0.86	10.230	***	Accepted
SW5	<---		0.85	0.84	11.353	***	Accepted
TS1	<---	TS	0.62	0.88	11.561	***	Accepted
TS2	<---		0.81	0.85	13.125	***	Accepted
TS3	<---		0.65	0.70	11.982	***	Accepted
TS4	<---		0.67	0.77	12.527	***	Accepted
TS5	<---		0.63	0.65	12.175	***	Accepted
WR1	<---	WR	0.64	0.54	12.000	***	Accepted
WR2	<---		0.72	0.54	10.500	***	Accepted
WR3	<---		0.94	0.88	11.614	***	Accepted
WR4	<---		0.79	0.73	12.591	***	Accepted
WR5	<---		0.81	0.82	10.829	***	Accepted

" Source: A researcher who is using the statistics program AMOS."

3-4- Testing and analyzing the study hypotheses

This section of the study moves from descriptive analysis to inferential statistics to test the causal relationships between the research variables. Structural equation modeling (SEM) using Amos software (version 26) was employed to verify the sub-hypotheses derived from the main hypothesis. This analysis aims to determine the extent to which the dimensions of total quality management strategies (continuous improvement, supplier development, quality-supportive leadership, and process management) can predict changes in resource sustainability in strategic projects. The acceptance or rejection of hypotheses will be based on precise statistical criteria, including standardized path coefficients, critical ratios (CRs) that must exceed the critical value, and the p-value, which indicates the significance of the effect. These criteria will be detailed in the following tables and figures.

3-4-1- Main (First) Hypothesis: There is a statistically significant effect of total quality management strategies and their dimensions on resource sustainability in strategic projects.

Table (9) and Figure (2) present the results of the confirmatory factor analysis and path analysis model depicted in a figure form. The model has high goodness-of-fit and reliability, indicating it is appropriate for hypothesis testing. The CMIN/DF was about 1.323, acceptable (none greater than 3). The Goodness-of-Fit Index (GFI) also exceeded the ideal value (0.90), and the Comparative Fit Index (CFI) did too, at 0.92 or higher. The RMSEA was 0.06, smaller than 0.08. This indicates that the proposed model is consistent with field observations and demonstrates the structural stability of the relationships among the variables.

The inferential statistics results for testing the effect of total quality management strategies on resource sustainability in strategic projects are shown in the table and figure above. The obtained F-value (48.071) is greater than the critical value (4.04), indicating that we can accept the major hypothesis: "Total quality strategies have a statistically significant impact on resource sustainability in strategic projects." This finding is reinforced by a Sig. of (0.000), which is less than the tabulated value of 5%. Also, the R-squared (R^2 = 0.40) shows that total quality strategies explain about forty percent (40%) of the variance in resource sustainability in strategic projects, and all other percentages are explained by other factors besides the model.

The F-value (48.071) exceeds the critical value (4.04); therefore, the main hypothesis "Total quality strategies have a statistically significant effect on resource sustainability in strategic projects" was accepted. Food: the value of the impact factor (standardized estimate) = 0.704 indicates that if a focus on Total Quality Management (TQM) strategies increases by 1 unit, then resource sustainability in strategic projects will increase by 0.704. Consequently, as the company develops its TQM strategies (i.e., continuous improvement strategy, supplier development strategy, quality-supportive leadership strategy, and process management strategy), it will develop sustained resources, which in turn would contribute to the reduction of resource waste across the three dimensions (environmental responsibility, social justice, and economic viability). This positive effect shows that the company's strategic approach helps eliminate waste material, supporting, in turn, long-term sustainability.

Table (9) Results of testing the main research hypothesis

The path			impact	standard error	C.R	(F) Extracted	R^2	Sig.
Total Quality Strategies	→	Resource sustainability in strategic projects	0.704	0.083	8.145	48.071	0.40	0.000

"Source: A researcher who is using the statistics program AMOS."

Indonesian Journal of Public Policy Review
Vol. 27 No. 1 (2026): January
DOI: 10.21070/ijppr.v27i1.1487

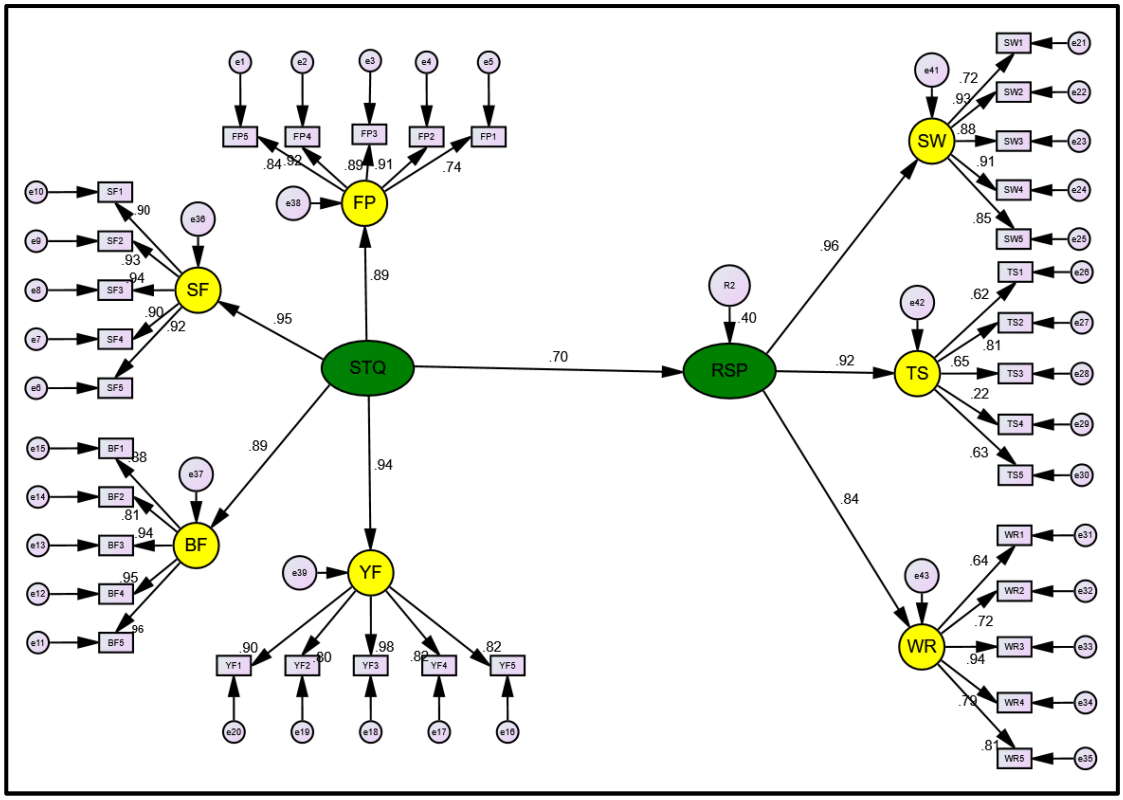


Figure 2: Impact analysis of the relationship between total quality management strategies and resource sustainability in strategic projects
"Source: A researcher who is using the statistics program AMOS."

3-4-2- Testing the sub-hypotheses of the dimensions of total quality management strategies in resource sustainability in strategic projects includes the following:

From Table (10) and Figure (3) above, it can be observed that the goodness of fit of indicators in the figure indicates that the structural model has acceptable reliability and statistical significance. The weighted chi-square (CMIN/DF) was nearly 2.130, and the GFI was in the ideal range of 0.95. Comparative fit index (CFI) was 0.943, and Tucker- Lewis Index (TLI) was 0.976, both above the minimum required thresholds. Moreover, the RMSEA (0.066) indicates that the model fits the field data well, allowing the testing of explanatory hypotheses in the sample.

The hypotheses were interpreted as:

- Hypothesis: Utilizing the continuous improvement strategy has a significant effect on resource sustainability (Table 3). The results revealed that CI strategies had a statistically significant influence on resource sustainability, with a standard estimate of 0.172 (critical ratio: 10.123) and a significance level of 0.000, thereby supporting the hypothesis. This dimension, along with the other measures, explained 37% of the variance in sustainability (R^2 = 0.37). The relentless quest for process improvement helps ensure the plant's long-term survival and enhances its strategic effectiveness.
- Impact Hypothesis of Supplier Development Strategy The 1. Supplier development strategy had a significant positive impact on resource sustainability, whose standardized parameter estimates value was (0.423), critical ratio value was (9.876), and significance level was (.000). Therefore, the hypothesis is accepted. This is justified by the development of strong relationships with good contractors/suppliers who provide world-class production input materials that comply with environmental & economic requirements , which, in the long run, sustain operations at the Kufa Cement Plant.
- Leadership Strategy that Supports Quality Impact Hypothesis: the maximum impact score for this strategy was obtained in all dimensions with a standard value of (0.532): critical ratio value of (9.871), significance level (0.000); thus, the hypothesis is accepted. This finding implies that top management's direction and encouragement of a quality culture are the first and most influential factors in achieving sustainability. Aware leadership for the vision enables the integration of quality norms and social and environmental responsibility into projects.
- The impact of operations management strategy hypothesis: Statistical analysis supported the hypothesis that there is a significant impact on technology system fit with standard value (0.139), Critical ratio value (8.145) and statistical significance level (.000). This implies that efficient management of daily work loads and a good control of process flow lead to the best possible utilization of available resources, reducing industrial waste, thereby increasing the environmental and economic feasibility of the plant.
- The determination of (R^2 = 0.37) on the subpath model demonstrates that all dimensions of total management strategies together can explain (37%) of the variance in resource sustainability in strategic projects. This percentage is a useful statistical reference when highlighting the direct influence of these dimensions on the company's long-term sustainability.

Indonesian Journal of Public Policy Review
Vol. 27 No. 1 (2026): January
DOI: 10.21070/ijppr.v27i1.1487

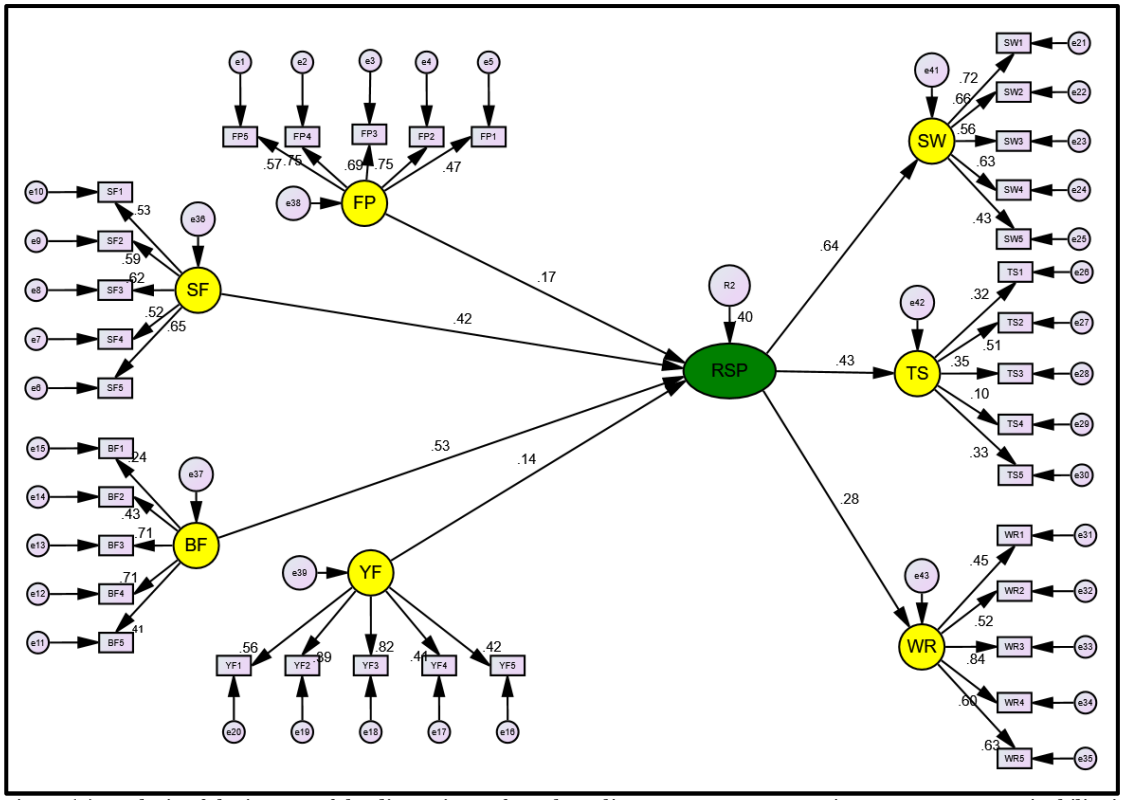


Figure (3) Analysis of the impact of the dimensions of Total Quality Management strategies on resource sustainability in strategic projects

"Source: A researcher using the statistics program AMOS"

Table (10) Analysis of the impact of the dimensions of Total Quality Management strategies on resource sustainability in strategic projects

Dimensions of the independent variable	**The path**	**Dependent Variable**	impact	standard error	C.R	R^2	Sig.	**Label**
Continuous improvement strategy	<---	Resource sustainability in strategic projects	0.172	0.066	10.123	*0.37*	*0.000*	Accepting
Supplier development strategy	<---		0.423	0.056	9.876		*0.000*	Accepting
Quality-supportive leadership strategy	<---		0.532	0.110	9.871		*0.000*	Accepting
Operations management strategy	<---		0. 139	0.186	8.145		*0.000*	Accepting

"Source: A researcher who is using the statistics program AMOS."

4. Conclusions

a. ·Analysis with respondents, Kufa Cement Plant has a good administrative system, which is based on relying on the TQM of the strategic option . Central to this is an environment of supportive leadership that, in turn, powers a culture of constant improvement and simplification. And even if the plant meets these dimensional requirements as of today, a stronger linkage with strategic partners must be built around the supply base and better integrated into the quality system to ensure there is no gap from the supplier to the end product.

b. The study reveals that the factory is committed to sustainability mostly in practice, rather than in principle (theory), particularly emphasizing the people aspect (social justice) and the proficiency factor (economic viability). This shift in perspective is evidence of the plant's ability to adopt a different vantage point from which to consider its strategic projects that balance economic gains with employees' and workers' rights. There are also powerful paradigms that equate environmental consciousness with social justice to maintain resources and discourage overuse.

c. At Kufa Cement Plant, the notion of continuous development is not limited to elevating product standards alone. It's a good preventive strategy to avoid resource exhaustion. Ongoing work to reduce waste and drive process improvements to maintain the flow of resources in an efficient cycle, minimizing industry waste and sustaining strategic initiatives over the long term.

d. Supplier capacity building was identified as a guarantee of sustainability. When selecting suppliers based on quality and environmental factors, appropriate control of raw materials is important. But by adopting this approach to reduce environmental and economic proposal and supply chain risks, a project is also more durable in historical moments like today.

e. That leadership commitment to good programs is the greatest factor in ensuring a plant has a sustainable future. "The sheer commitment from top leadership makes it real rather than just words on a piece of paper." This commitment to leadership means that quality, ethics, and corporate social responsibility are entrenched in our environment as we rally around strong strategic initiatives. It is determined that accurate control of day-to-day operations and rigorous technical control represent the executive column for resource sustainability, since effective management of day-to-day products leads to optimizing energy consumption and raw materials; this discipline in operations management also makes final outputs more valuable and minimizes hazardous environmental effects, positively influencing the global plant viability as a genuine industrial corporation.

Vol. 27 No. 1 (2026): January
DOI: 10.21070/ijppr.v27i1.1487

5. Recommendations:

- Reinforce green partnerships with suppliers: It is suggested that the criteria for selecting suppliers be modified to include ISO-standard quality and environmental certifications, and that local suppliers' technical assistance and training be enhanced to ensure their inputs to the firm's agribusiness complex meet the required sustainability standards. This can help to reduce waste of raw materials from the start of a supply chain.
- Establish the institutional mechanism of steady intensification: adopt the target responsibility system, at the plant level, set up special organization for periodical see-through on defects occurred in production, encourage workers to put forward proposals that can reduce energy consumption from furnaces and associated equipment during operation; make sure the incentive system is closely related with the amount of resources saved due to these improvements.
- · Harness the power of leadership to develop awareness in sustainability: It is recommended that top management carry out organization-wide awareness programs aimed at employees (at all levels)—on the philosophy of "sustainable quality"—and make it an issue of a day-to-day organizational sensibility, wherein a higher yield / output can be sustained within environmental resource conservation.
- Digital Operation Control Systems: "digital control systems" to provide near-instantaneous feedback through real-time monitoring of emissions and resources. This allows management to act quickly when variances are observed that may impact the economic viability and environmental performance of projects.
- Integration of social responsibility and equity programs: Recommendations for the development of integrated social equity programs with components that support an improved working environment in the fields, including advanced healthcare, education, training, and career opportunities. This will help retain top talent and prevent attrition, thereby ensuring steady project delivery.

References

[1] S. Alam et al., "Integrating Total Quality Management with Strategic, Operational, and Human Resource Management: A Qualitative Exploration of Synergies for Enhanced Organizational Performance," *Golden Ratio of Marketing and Applied Psychology of Business*, vol. 4, no. 2, pp. 88–100, 2024.
[2] K. Al-Bitar and K. Hosseini, "Sustainability, Environmental Responsibility and Innovation," *Green Finance*, vol. 5, no. 1, pp. 85–88, 2023.
[3] A. M. Alhamad, Z. M. Jaafar, and A. M. Salem, "Influence of Consumer Environmental Responsibility on Green Consumption Intention in Iraqi Universities: The Role of Purchase Convenience and Availability of Green Products," *International Journal of Engineering and Science*, vol. 13, no. 7, pp. 41–49, 2023.
[4] Association for Project Management, "What Is Sustainability in Project Management?," 2025. [Online]. Available: https://www.apm.org.uk/resources/what-is-project-management/what-is-sustainability-in-project-management/
[5] C. Bai and J. Sarkis, "Supplier Development Investment Strategies: A Game Theoretic Evaluation," *Annals of Operations Research*, vol. 240, no. 2, pp. 583–615, 2016.
[6] C. Balaceanu, D. Apostol, and D. Penu, "Sustainability and Social Justice," *Procedia - Social and Behavioral Sciences*, vol. 62, pp. 677–681, 2012.
[7] J. Boske, "Leading Towards Sustainability: A Review of Sustainable Leadership, Sustainability, and the Environment," *Sustainability*, vol. 15, no. 16, p. 12626, 2023.
[8] D. I. Brajogo and A. S. Sohal, "The Relationship Between Organizational Strategy, Total Quality Management, and Organizational Performance: The Mediating Role of Total Quality Management," *European Journal of Operational Research*, vol. 168, no. 1, pp. 35–50, 2006.
[9] F. Buckland and E. Sundqvist, "Continuous Improvement: Challenges for Project-Based Organizations," *International Journal of Quality and Reliability Management*, vol. 35, no. 7, pp. 1306–1320, 2018.
[10] M. A. Camilleri, "Corporate Sustainability and Responsibility: Creating Value for Business, Society and the Environment," *Asian Journal of Sustainability and Social Responsibility*, vol. 2, no. 1, pp. 59–74, 2017.
[11] P. Djordjevic et al., "The Impact of Leadership on Strategic Quality Planning," *Total Quality Management and Business Excellence*, vol. 31, no. 5–6, pp. 681–695, 2020.
[12] R. D. Doszhan et al., "Economic Feasibility of Sustainable Innovations," *Models, Systems, Networks in Economics, Technology, Nature and Society*, no. 3, pp. 42–59, 2022.
[13] W. J. Glover, J. A. Farris, and E. M. Van Aken, "The Relationship Between Continuous Improvement and Rapid Improvement Sustainability," *International Journal of Production Research*, vol. 53, no. 13, pp. 4068–4086, 2015.
[14] J. F. Hair, G. T. M. Hult, C. M. Ringle, and M. Sarstedt, *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*, 2nd ed. Thousand Oaks, CA: Sage, 2017.
[15] A. M. Harzallah, L. Gutierrez-Gutierrez, and J. F. Munoz Rosas, "Total Quality Management Practices, Competitive Strategies and Financial Performance: The Case of Palestinian Small and Medium Industrial Enterprises," *Total Quality Management and Business Excellence*, vol. 25, no. 5–6, pp. 635–649, 2014.
[16] P. D. Hertz, S. L. Murray, and C. A. Riordan, "The Effects of Leadership on Quality," *Journal of Engineering Management*, vol. 19, no. 1, pp. 22–27, 2007.
[17] D. Z. Jami and A. Muharram, "A Strategy for Improving the Quality of Islamic Religious Education Programs with Total Quality Management," *Nizam-ul-Haq Journal of the Muslim Scholars of Islam*, vol. 7, no. 2, pp. 267–283, 2022.
[18] R. Jimoh et al., "Total Quality Management Practices and Organizational Performance: The Mediating Roles of Continuous Improvement Strategies," *International Journal of Construction Management*, vol. 19, no. 2, pp. 162–177, 2019.
[19] I. R. Kerr, "Leadership Strategies for Sustainable SME Operation," *Business Strategy and the Environment*, vol. 15, no. 1, pp. 30–39, 2006.
[20] A. Maiden and I. Labina, "Sustainability and Continuous Organizational Improvement: A Review of Process-Driven Performance Indicators," *Open Innovation Journal Technology Market and Complexity*, vol. 5, no. 3, p. 49, 2019.
[21] O. H. Orino et al., "Sustainability in Project Management: A Comprehensive Review," *International Journal of Advanced*

Vol. 27 No. 1 (2026): January
DOI: 10.21070/ijppr.v27i1.1487

Research and Reviews, vol. 21, no. 1, pp. 656–677, 2024.
[22] G. Perin and P. R. Jones, "Economic Feasibility and Long-Term Sustainability Criteria on the Path to Enable a Transition from Fossil Fuels to Biofuels," *Current Opinion in Biotechnology*, vol. 57, pp. 175–182, 2019.
[23] E. F. F. Romero, "Strategic Project Management: A Methodology for Sustainable Competitive Advantage," *Revista Escuela de Administracion de Negocios*, pp. 15–31, 2018.
[24] E. F. F. Romero, "Strategic Project Management: A Methodology for Sustainable Competitive Advantage," *Revista Escuela de Administracion de Negocios*, pp. 15–31, 2018.
[25] I. Silanpa, K. Shahzad, and E. Silanpa, "Supplier Development and Buyer-Supplier Relationship Strategies: A Literature Review," *International Journal of Procurement Management*, vol. 8, no. 1–2, pp. 227–250, 2015.
[26] G. Silvius and K. Marnwick, "Linking Sustainability in Strategic Planning, Project Management and Project Management: A Conceptual Framework," *Issues in Computer Science*, no. 196, pp. 938–947, 2022.
[27] I. Suarez, G. Fernandez, and J. M. R. C. A. Santos, "Sustainability in Project Management Practices," *Sustainability*, vol. 16, no. 10, p. 4275, 2024.
[28] A. J. Silvius and R. P. J. Schepper, "Sustainability in Project Management: A Literature Review and Impact Analysis," *Social Business*, vol. 4, no. 1, 2014.
[29] V. Tornjanski, S. Marinkovic, and Z. Jancic, "Towards Sustainability: Effective Operational Strategies, Quality Management, and Operational Excellence in the Banking Sector," *Amfiteatro Economic Journal*, vol. 19, no. 44, p. 79, 2017.
[30] S. M. Trif and M. F. A. Ali, "The Impact of Continuous Process Improvement Elements on Achieving Sustainable Competitive Advantage," *Journal of International Crisis Research and Risk Communication*, vol. 7, no. 3, 2024.
[31] S. A. Yawar and S. Seuring, "Reviewing and Conceptualizing Supplier Development," *Benchmarking An International Journal*, vol. 27, no. 9, pp. 2565–2598, 2020.
[32] S. Zehir and C. Zehir, "Effects of Total Quality Management Practices on Financial and Operational Performance of Hospitals," *Sustainability*, vol. 15, no. 21, p. 15430, 2023.
[33] H. Zhang et al., "Supplier Development Strategy Considers Technical Doubt," *International Journal of Production Economics*, vol. 269, p. 109159, 2024.